TRANSACTIONS

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of
OPHTHALMOLOGY
and
OTOLARYNGOLOGY

MAY - JUNE
1959

Volume 63 No. 3

ANNUAL MEETING, OCTOBER 11-16, 1959, CHICAGO

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TRANSACTIONS

American Academy of Ophthalmology and Otolaryngology

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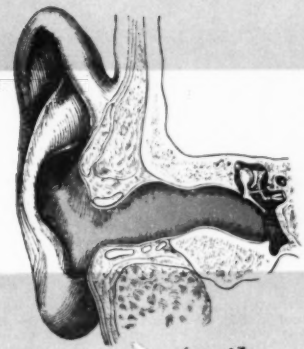

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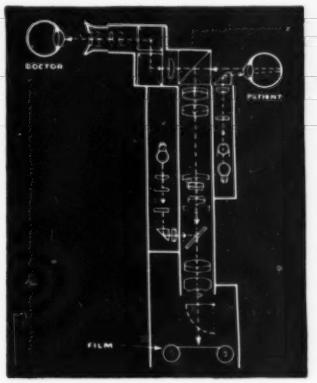

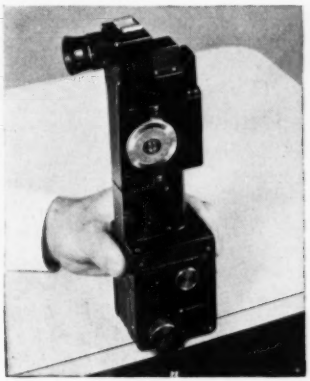

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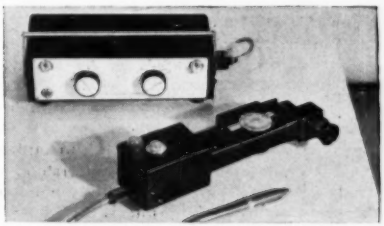

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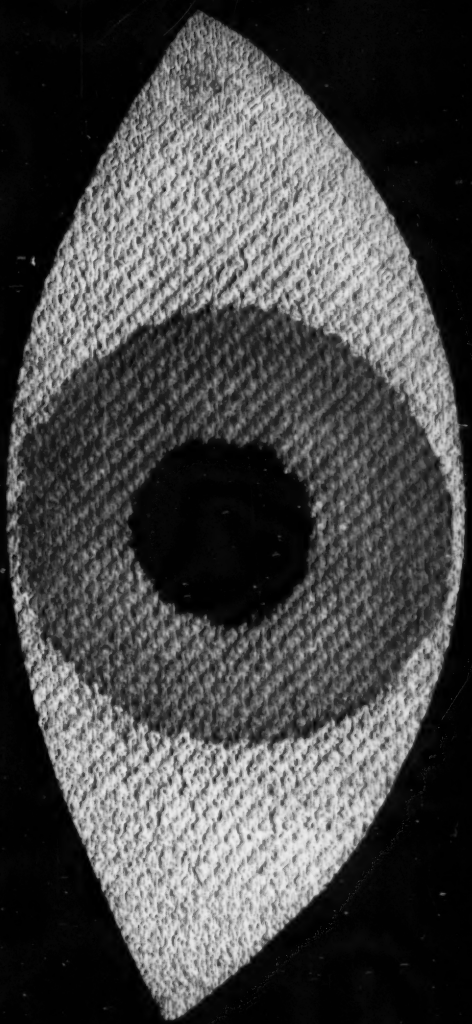

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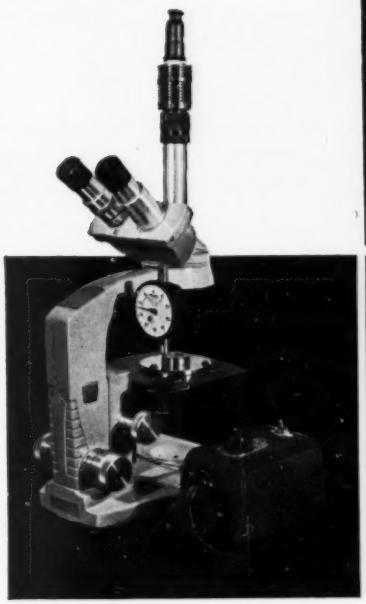

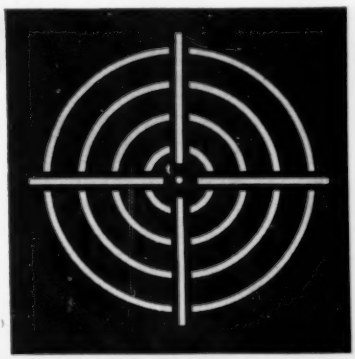

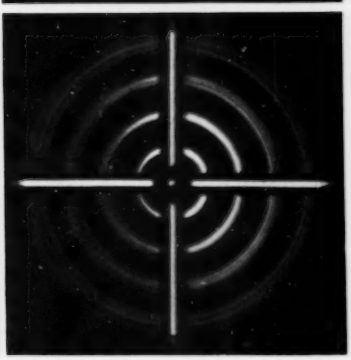

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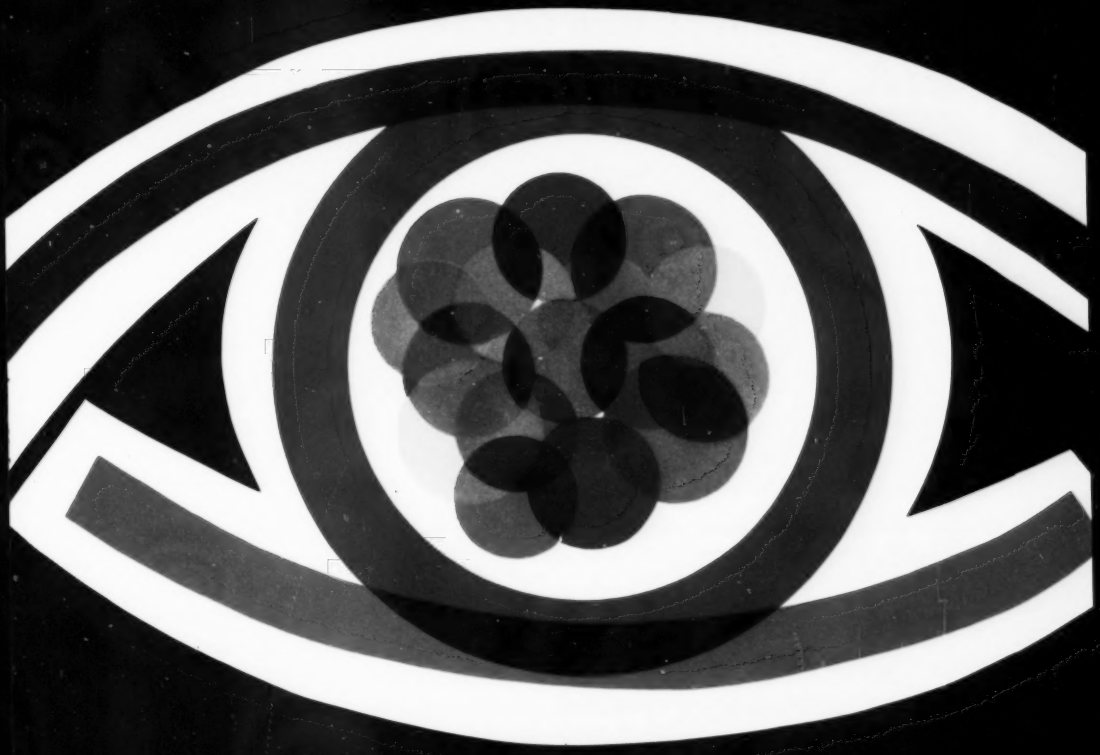

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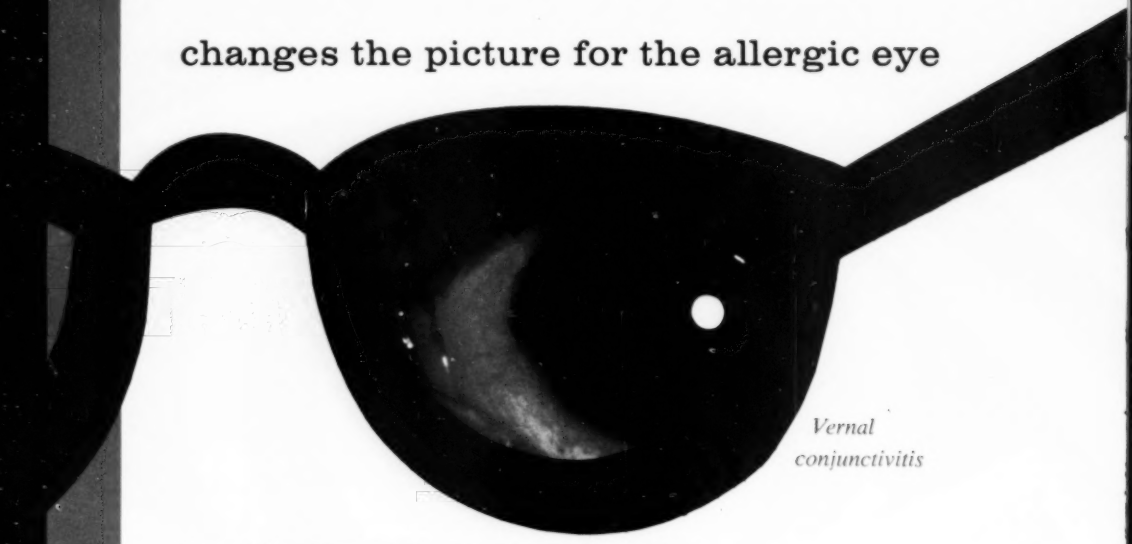

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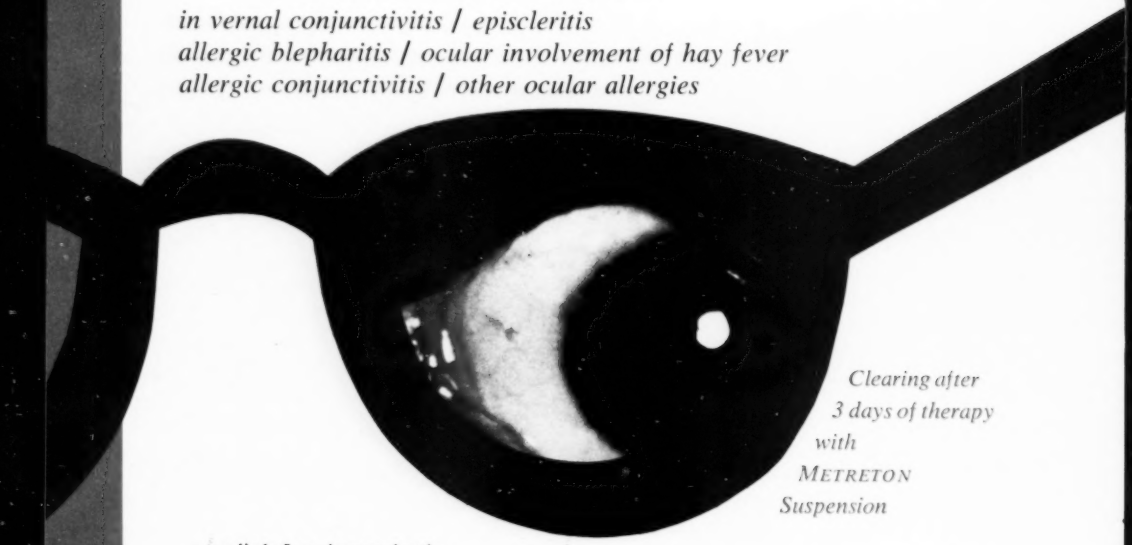

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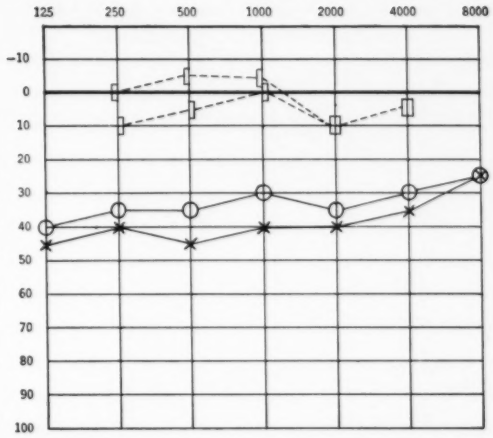

If this were your patient's audiogram, which type of hearing aid would you recommend? It is taken from the case history of a 32-year-old bookkeeper whose hearing loss was diagnosed, at age 19, as otosclerosis, with little or no perceptive component. In consultation with his doctor, the patient decided against surgery.

This report is but one of many typical cases described in a new book, prepared especially for the medical profession by the Hearing Aid Division of Zenith Radio Corporation.

Clinical Findings: Ave. loss, R: 33 db, L: 42 db, B.B.A.: 33 db, SRT: 35 db, MCL: 55 db, TD: 100 db. Discrimination: L: 92%, R: 94%.

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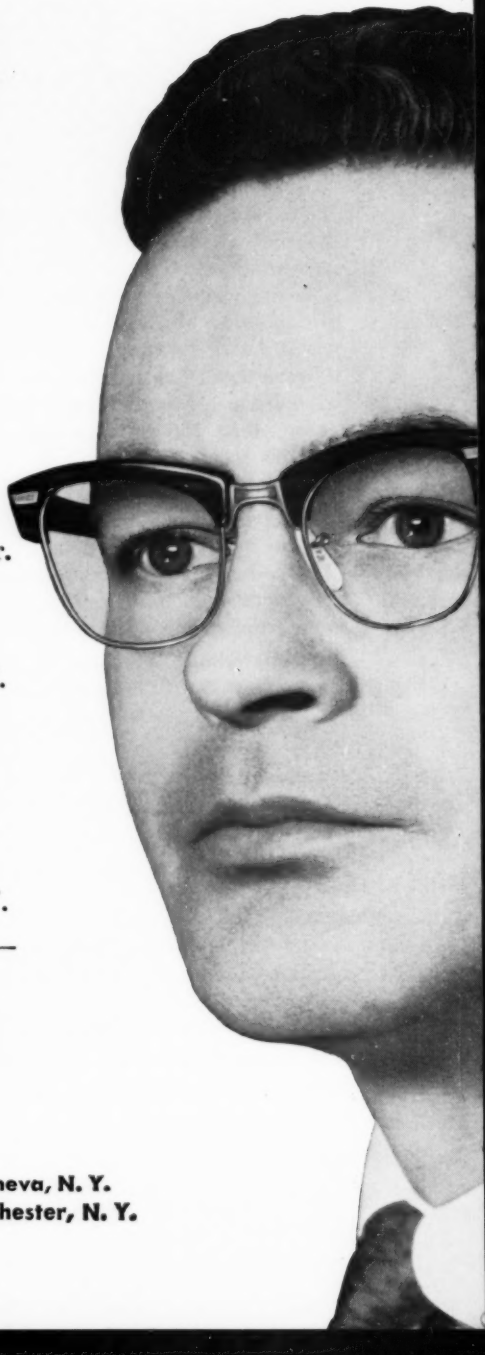

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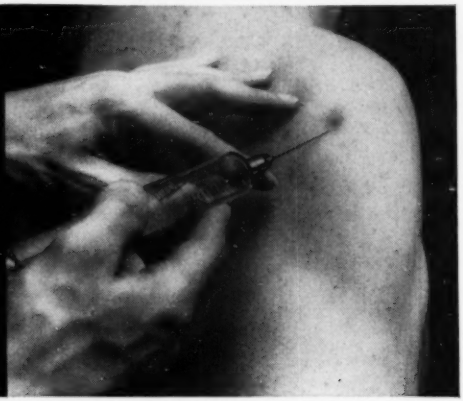

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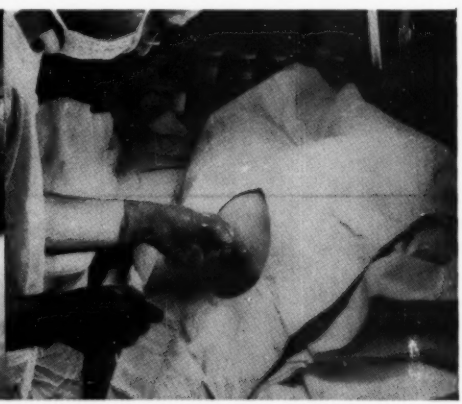

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references: 1. Current Researches in Anesth. & Analges. 33:275, July-August 1954. 2. J. Urol. 72:266, August 1954. 3. Anesthesiology 16:386, May 1955. 4. Western J. Surg., Gynec. & Obst. 59:533, October 1951.

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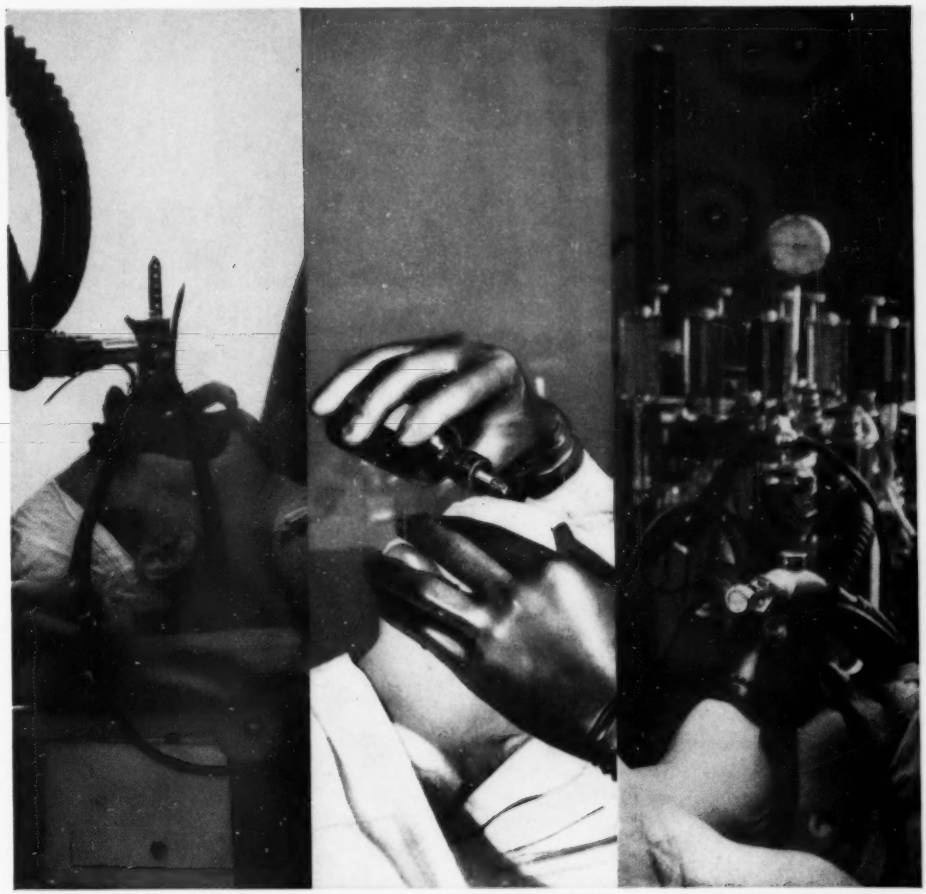

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1. Goodman, L. S., and Gilman, A.: The Pharmacological Basis of Therapeutics, ed. 2, New York, The Macmillan Company, 1955, p. 69.

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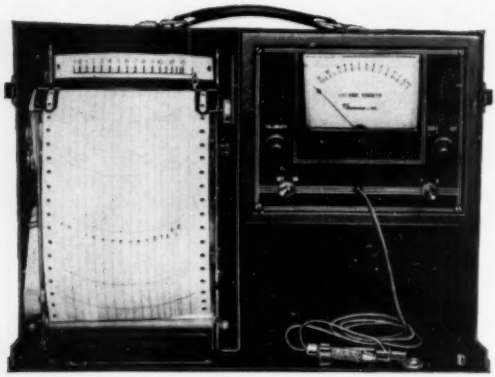

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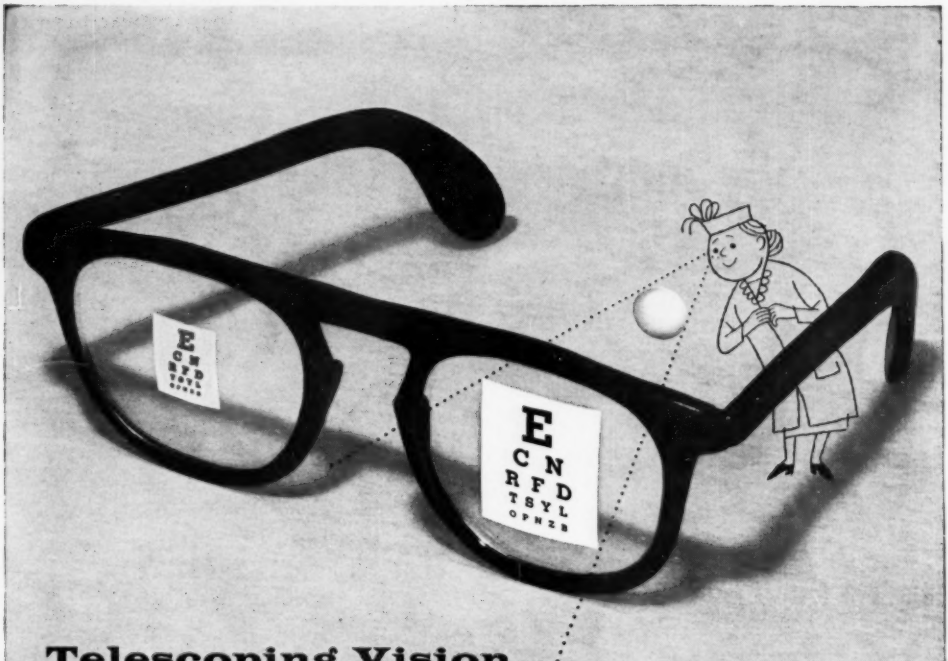

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Another study points out that "The majority of tonsillo-adenoidal hemorrhages are due to a defect of the vascular bed, rather than to a coagulation defect."[2] This study recommends that Adrenosem be used both preoperatively and postoperatively to maintain vascular integrity.

A current review concludes: "The data assembled over a four year period bearing on the use of Adrenosem salicylate in the control of hemorrhage from the nose and throat warrant the following conclusions. The routine preoperative use of this drug in tonsil and adenoid surgery reduces bleeding at the time of operation and oozing in the immediate postoperative period. As a result the operating time is reduced and fewer patients require suture of the tonsil fossa to control bleeding."[3]

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*U.S. Pat. 2581850, 2506294

1. Roskam, J.: Arrest of Bleeding, Charles C. Thomas, Springfield, Illinois, 1954.

2. Coyle, J.E.: Analysis of Blood and Vascular Factors in the Prophylaxis of Tonsillo-Adenoidal Hemorrhage, Laryngoscope, 10:1029 (Oct. 1957).

3. Peele, J.C.: Control of Hemorrhage from the Nose and Throat, Med. Times, 10:1228 (Oct. 1958).

Write for literature describing the action and uses of Adrenosem Salicylate.

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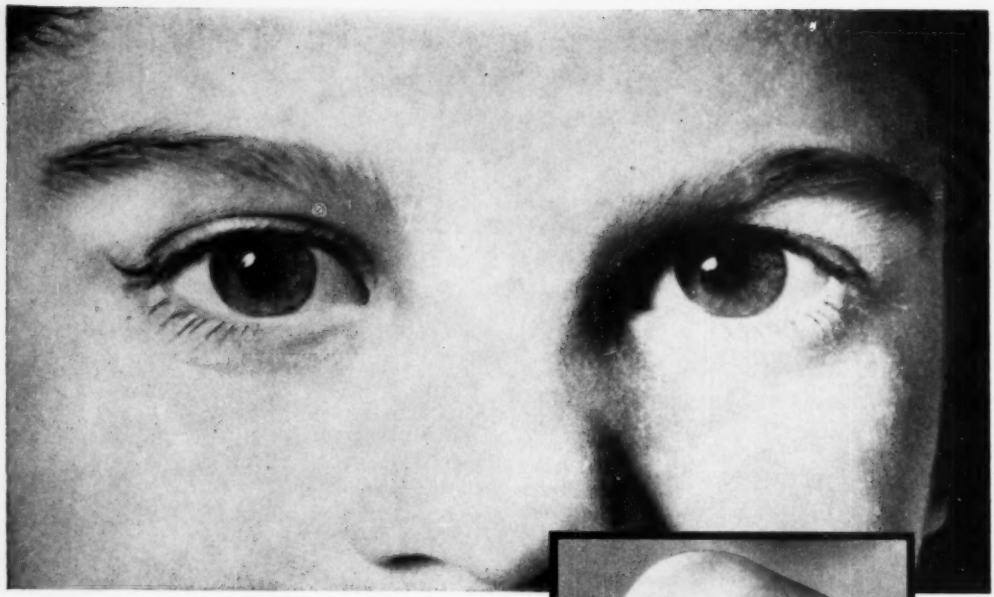

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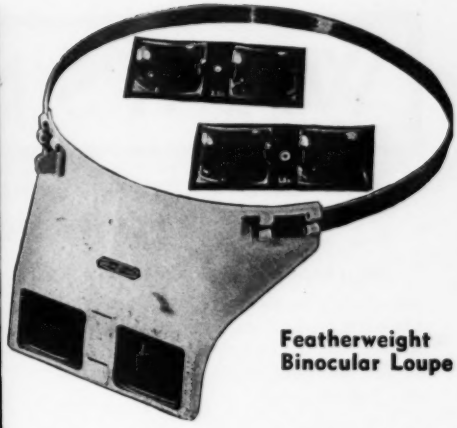

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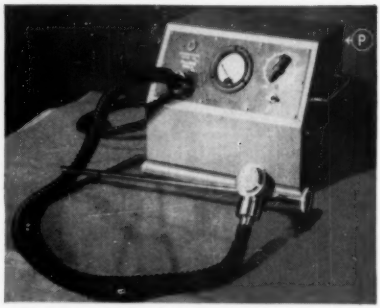
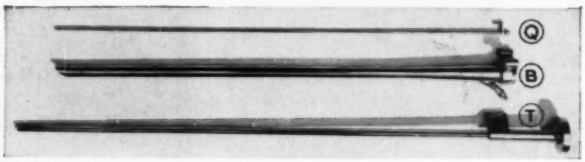


- bronchoscope 9mm x 40cm (B)
- quartz rod for illumination (Q)
- forward-viewing telescope (T)
- luminator (L)
- power unit (P)



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References:

Jackson, C.L.: New Instrumentarium for Peroral Endoscopy and Endoscopic Photography. LARYNGOSCOPE, *67*:777, (Aug.) 1957.

Fourestier, M., Gladu, A., and Vulmiere, J.: LA PRESSE MEDICALE, *60*:1292, (Oct.) 1952.

Dubois De Montreynaud, J.M., Edwards, Roger, J., and Gladu, Amédé J.: LARYNGOSCOPE, *66*:637, (June) 1956.

——JOUR. BIOLOG. PHOTOG. ASSOC., *24*:45, (May) 1956.

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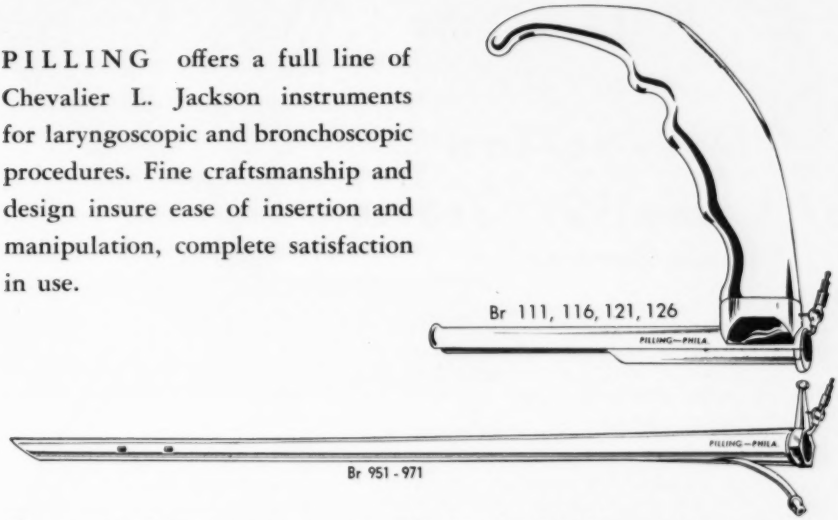

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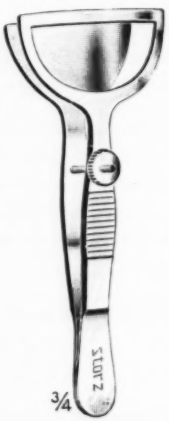

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1. *Am. J. Ophth.* 42:771, 1956.
2. *Am. J. Digest Dis.* 22:5, 1955.
3. *Med. Times* 84:741, 1956.

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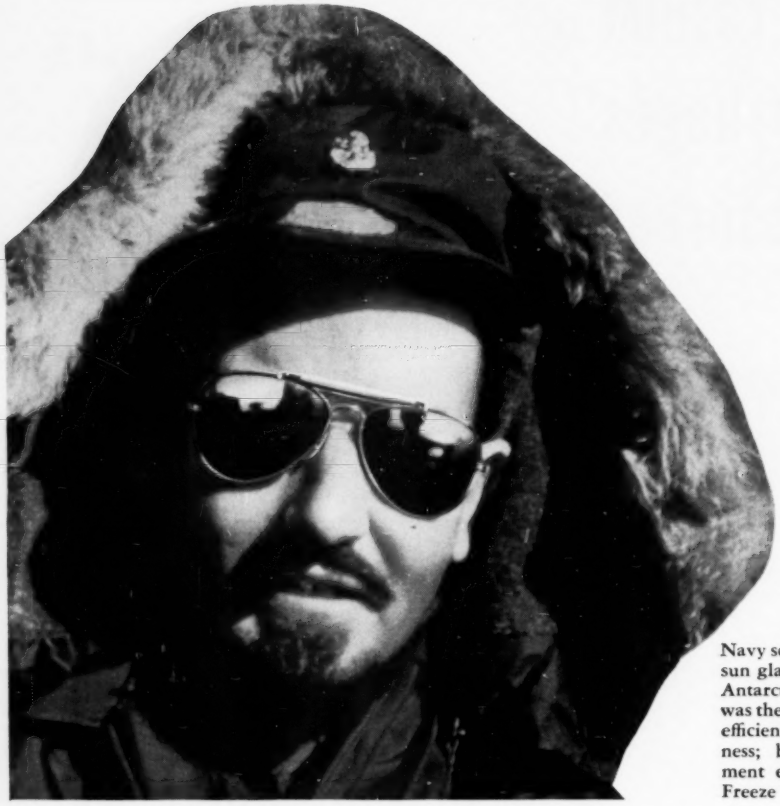

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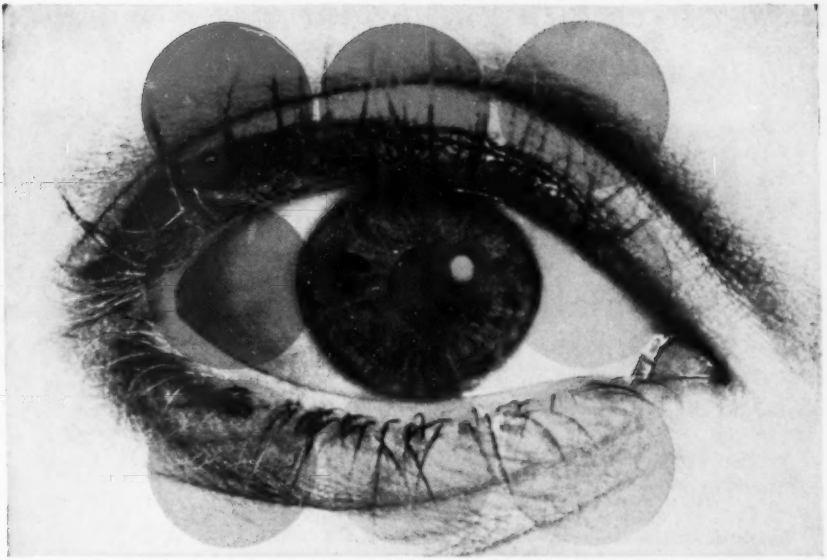

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1. New and Nonofficial Drugs; J. B. Lippincott Company, Philadelphia, 1958, p. 243.

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THE oral cavity is a region attracting overlapping interest and responsibility, accessible to examination by generalist and specialist, and in many instances by the patient himself. In view of these facts, the small asymptomatic carcinomas of the oral cavity should be found early. However, the mouth apparently is rather insensitive to changes in tissue consistency, and this hyposensitivity is magnified in the presence of prosthetic appliances or poor oral hygiene. As a result, we are too frequently confronted by advanced tumors that have become known only after there has been an alteration in function, after ulceration has caused bleeding, or after secondary infection has caused pain.

This superficial location of the carcinomas of the mouth has been, in part, the cause of some reticence in adequate surgical management when facial or articulation structures are involved. A reluctance to alter communication and create feeding problems seems to have cast a pall of conservatism in management of readily accessible and surgically circumscribable lesions. This is understandable when we take into account the anesthetic problems of the past, the fluid balance and nutrition problems of the past, and the poor control of infection prior to the advent of the chemotherapy and antibiotic medication which we take for granted at present. These are the factors that resulted in inadequate surgical procedures or in the avoidance of surgical intervention and a dependence upon radiation therapy, so that management of oral cancer prior to the last decade was generally considered to be solely radiological.

The picture with radiation therapy methods was not ideal despite special adaptations such as intraoral cones. Insertion of radium needles was frequently actually a surgical procedure and the resultant slough differed only in time and lack of control from surgical excision or electrocautery. However, there were some successful outcomes. The newer betatron and cyclotron have not been generally available and their value in lesions of this area is still to be determined. The immedate radiation reaction or mucocitis is accompanied by pain and swelling, and it creates nutritional and articulation problems no less severe and usually more prolonged than those following a surgical procedure. Therefore, when vastly improved surgical adjuvants made a re-appraisal possible, it is not surprising that surgical intervention had gained favor with many of us interested in the problems of carcinoma of the mouth. It is in support of this re-appraisal that we wish to present current attitudes and results, in turn to stimulate

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further the use of a surgical approach, which we feel will offer the patient an improved over-all outlook with increased comfort and without substantial loss in function or extensive change in outward appearance.

We have used the term "adequate surgery" to replace "radical surgery" because we feel that it is more to the point. Adequacy in dealing with carcinoma of the oral cavity may call for localized or extensive tissue removal. It would be advantageous to be able to describe surgical procedures in a pattern for the various lesions that confront us. However, specific operative procedures must be planned on the basis of the individual case needs because the exact site and extent of each tumor may alter the choice of the surgical attack to be undertaken. The guiding surgical principle does not vary from that employed in dealing with most malignant tumors; that is, total eradication of the pathologic process in the first attack. We are aware of the fact that we are dealing with a disease that, uncontrolled, will ultimately kill the patient. In the head and neck region, the fatal outcome will usually be preceded by loss of organ function and visible deformity, so that the initial attack must be a total attack, not a temporizing or obscuring maneuver that is compromised before it is started. Excision must be complete, and when the direction of lymphatic metastasis can be predicted and anticipated, the area of potential spread is included as part of a block excision. There are limitations to operations on tumors in the oral cavity, and in such instances clinical results dictate radiation therapy of the primary tumor and delayed surgical management of operable cervical adenopathy when it subsequently develops after control of the primary site. This form of procedure is applied in four situations:

1. Lesions of the base of the tongue with extension into the body. Carcinoma of the base of the tongue proper invariably has invaded the epiglottis and preepiglottic regions, and only total laryngectomy coupled with resection of the tongue base will permit adequate excision.

2. Tumors that have caused fixation of the tongue. When the tongue is fixed by invasion of its body, the spread has usually extended to the opposite side. Surgical eradication of the disease without irreparable physiologic damage is usually impossible, and in general we consider a lesion that causes some fixation of the tongue as inoperable.

3. Lesions of the posterior lateral border of the tongue with extension to the adjacent floor of the mouth, to anterior pillar, and to the tonsil.

4. Extensive lesions of the anterior pillar, tonsil, and soft palate. Necessary surgical removal of extensive lesions in the latter two sites distorts the return to satisfactory physiologic status out of proportion to immediate and late tumor survival rates.

In a few regions of the oral cavity, management of localized malignant lesions is adequately and satisfactorily dealt with by local excision or electrosurgery. Continuing and increasing employment of electrosurgery, when indicated, has been a constant source of encouragement. We believe that other operators using this technique are equally impressed with its simplicity and its adequacy when compared with radiation methods for comparable tumors. Likewise, the minimal morbidity and excellent healing without physiologic interferences is also impressive. Electrosurgical removal and destruction of small localized superficial malignant lesions is employed in the following areas:

1. Floor of mouth, without extension to the tongue or mandible
2. Hard palate
3. Buccal mucosa
4. Anterior pillar or soft palate.

These areas have in common the fact that they do not permit primary closure with good healing and return of function after incisional surgery. We do see an early return of function following the healing by secondary intention that follows electrosurgery. Unfortunately in our series, most patients on first examination present pathologic states which are too extensive for adequate local destruction by such electrosurgery as described.

We do encounter tumors which appear to be on the borderline of operable feasibility with an adequate margin of safety. One cannot always judge the possibility of surgical eradication solely on clinical examination, and the true limits of the extent of the tumor may be apparent only at the time of surgery. These are the cases that are known poor tumor risks and residual disease is likely to ensue at a fairly early postoperative date. Nonetheless, we feel they deserve the surgical evaluation as long as there is a reasonable chance of a favorable outcome.

There is also a problem, somewhat singular, encountered in a relatively high incidence in the mouth. That is the problem of "area carcinoma." This problem is characterized by apparent multiple primaries within the region, either observed concurrently or as a series of primaries in noncontinuous and noncontiguous locations. At present no method of treatment appears to offer adequacy in the over-all picture.

In this presentation we are chiefly concerned with those clinical states of oral malignancy in which surgical treatment has been gaining increasing favor with an ever increasing number of interested surgeons. Those of us who have passed from the era limited to irradiation therapy into an era of aggressive surgical attack, which has been aided by improved adjuvants, are experiencing a very distinct and gratifying improvement in both early and late individual morbidity and over-all mortality results. Statistical evaluation of the personal experience of the attending surgeon is a more effective measure of a therapeutic regimen than that represented by a group of cold figures. The latter, of necessity, must take into account all cases, where a judicial breakdown cannot be reflected.

Predominantly, adequate local surgical excision of mouth carcinoma is limited to the tumors of the anterior two thirds of the tongue. These relatively early cases respond well to adequate wedge resection with primary closure. Rarely has cervical metastasis occurred, and neck dissection is not carried out electively because of the high incidence of contralateral metastatic lesions. The localized resections may vary from an area a few centimeters in extent to hemiglossectomy. The operator must be certain of the feasibility of closure of the wound without impairment of function. Routinely, the presence of unilateral metastatic nodes necessitates a complete neck dissection at the time of removal of primary tumor. In early tongue tumors, a cervical lesion represents, on the basis of experience, a second malignant site without direct continuity with the primary tumor when the floor is not involved. The spread from the primary site to the secondary lymphatic bed has been of an embolic nature, and subsequent retrograde permeation of the lymphatic pathways has not been the rule. With this reasoning we do not advocate a "pull-through" procedure to create a block, but rather consider the fields as

two separate neoplastic sites, each of which requires resection. The "pull-through" procedure in our hands was associated with difficulties in closure and with poor primary healing. Should the closure of a partial glossectomy compromise function, it is desirable that hemimandibulectomy be made a part of the procedure.

A notable forward step in the management of oral carcinoma has been the surgical attack of those tumors in which adequate excision has been associated with hemimandibulectomy and neck dissection. As stated previously, when excision in hemiglossectomy is of such extent as to preclude primary closure, a hemimandibulectomy should be carried out. In addition to this indication, unilateral lesions of the tongue that extend to the floor of the mouth and lie adjacent to the mandible or extend to the mandible, with or without clinical evidence of cervical metastasis and with or without evidence of bone involvement, re-

CHART I

TONGUE, TONGUE AND FLOOR OF MOUTH, OR FLOOR OF MOUTH

47 operated, 2 postoperative deaths

Of 45:

10 have lived 5 years or more	(1 died of carcinoma after 5 years) (1 died of other causes after 5 years)
10	
2 have lived 4 years or more	
12	
12	
5 have lived 3 years or more	
17	
17	
10 have lived 2 years or more	(1 died of other causes within 24 months)
27	
27	
18 have lived 1 year or more	(8 died of carcinoma 12-20 months)
45	

9 deaths by carcinoma
2 deaths by other causes

BUCCAL MUCOSA, PALATE, ALVEOLAR RIDGE, ANTERIOR PILLARS

24 operated upon, no postoperative deaths

Of 24:

9 have lived 5 years or more	(1 died of carcinoma after 5 years) (1 died of other causes after 5 years)
9	
1 has lived 4 years or more	
10	
10	
2 have lived 3 years or more	(1 died of carcinoma at 36 months)
12	
12	
7 have lived 2 years or more	
19	
19	
5 have lived 1 year or more	(2 died of carcinoma at 18 and 21 months, respectively)
24	(1 died of other causes at 18 months)

4 deaths by carcinoma
2 deaths by other causes

quire a block excision of tumor, a hemimandibulectomy, and complete neck dissection in continuity. It is this operation which was termed the "commando procedure" at its inception. The feasibility of extending this type of resection to include lesions which also involve the anterior pillar depends upon individual skill and judgment.

Similarly, the extensive lesions of the floor of the mouth or of the alveolar process with extension to the lingual or buccal gutters are also treated by a composite resection including hemimandibulectomy and neck dissection. There are superficial carcinomas of the alveolar process, upper or lower, that may be encountered sufficiently early to permit adequacy in management by wide excision coupled with alveolectomy.

Extensive palate lesions do not pose specific problems. When small, as mentioned previously, destructive electrosurgery is adequate to eliminate the disease. Most cases, however, are more extensive, with clinical evidence of bone invasion being present, and some form of maxillary resection will generally circumvent the tumor.

Guided by these generalities and adapting them to specific patients, what is the outcome? The first benefit of surgical approach is that of patient comfort. The discomfort associated with radiation therapy of carcinoma of the mouth is only appreciated by day to day follow-up of the patient. The patient undergoing surgical attack has very little immediate postoperative discomfort and no late pain. The return to normal function is equally rapid.

Our own results (see chart) reflect an increasingly aggressive surgical viewpoint. Originally encouraged by improved patient comfort, an improved early and projected late survival rate has been a concurrent aim that has been forthcoming, although it is too early to report a large series with standard five year results. Because our own series is heavily weighted by a relatively large percentage of far advanced tumors, we believe that cold figures are conservative in what could be expected with wider acceptance of surgical rather than irradiation modalities in the treatment of those cancers of the mouth that are resectable.

CONCLUSIONS

We conclude that, when feasible because of site and extent of tumor, coupled with a consideration of the general condition of the patient, surgical excision at present appears to offer more to the patient than do other methods of treatment. It offers equivalent or better survival rates, it is more likely to offer greater immediate comfort to the patient, and is not a more deforming procedure than full-course radiation with its immediate and late effects.

SURGICAL APPROACHES TO CANCER OF THE FLOOR OF THE MOUTH

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BY INVITATION
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THE results of surgical treatment of cancer of the floor of the mouth have improved in recent years and this mode of treatment has become more widely accepted.[1,2] An aggressive surgical approach to cancer of the floor of the mouth is justified by the distress of the patient and the fatal outcome of the disease when the lesion is untreated or is treated palliatively with radiation (figs. 1 and 2). Appropriate surgical resections result in little disfigurement, in rapid and comfortable convalescence, and in remarkably little functional derangement. Furthermore, surgical resection is applicable to many patients with difficult associated problems such as carcinomatous involvement of the mandible and residual or recurrent carcinoma following maximum radiation therapy.

Improvement in the results of surgical treatment of cancer of the floor of the mouth seems to be due to better surgical methods, improved anesthesia, antibiotic control of infection, and a more careful regulation of blood volume and of fluid and electrolyte balance.

Carcinoma situated anteriorly in the floor of the mouth is ordinarily rather well differentiated, grows slowly and metastasizes late. The posteriorly located carcinomas are more malignant in these respects. The duration of the cancer and its histologic differentiation are of less importance in influencing the type and extent of resection than the size of the lesion and its spread. Extensive cancers of the floor of the mouth which involve the tongue may be impossible to distinguish from primary cancers of the tongue, but such differentiation is not essential to treatment.

The operative procedures are designed to effect (a) resection of the primary lesion and (b) resection of the regional lymph nodes. In all cases a reasonable margin of healthy tissue is excised in a block with the primary tumor. In patients without significant local extension of the cancer and without palpable metastases, the resection of the regional lymphatics is performed subsequently in stages and the mylohyoid diaphragm is not sacrificed. The massive, in-continuity *(en bloc)* resection of regional lymphatics and intervening tissues with the primary tumor is reserved for the extensive cancers which involve the tongue or mandible. Some of these extensive tumors also invade the neck and are associated with metastases in cervical lymph nodes.

Three varieties of resections appear applicable to most floor of mouth cancers, i.e., (1) limited local resection and subsequent neck dissection, (2) radical

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FIG. 1—A.S. Extensive carcinoma of the floor of the mouth of long duration and unresectable at the time of initial examination. The patient was given palliative external radiation.

FIG. 2—R.B. Extensive carcinomas of the floor of the mouth of long duration, unresectable at the time of initial examination. The patient was given palliative radiation.

local resection and subsequent neck dissection, and (3) resection in continuity. These procedures will be described in detail later in this paper.

Preoperatively, mouth washes are used for several days and dental hygienic measures are instituted if needed; blood volume, fluid and electrolyte deficits are corrected when present. If significant nutritional problems are present, operation is delayed while special feedings are given to reduce the operative risk. Preliminary external carotid or lingual artery ligations are not employed because bleeding during operation is not a serious problem and because of the likelihood of such ligations interfering with wound healing. Transnasal or transtracheostomy intubation (endotracheal) anesthesia is used.

LIMITED LOCAL RESECTION

This operation is indicated when (1) the lesion is less than 1.5 cm. in diameter and is situated in or near the midline in the anterior floor of the mouth area, (2) the anterior margin of the tumor is at least 1 cm. behind the posterior lingual surface of the mandible, (3) the lesion is freely movable, (4) the roentgenogram shows no involvement of the mandible, and (5) the cervical lymph nodes are not involved, as determined by palpation.

Method

The teeth are held apart by two bite-blocks in the molar areas. A traction suture is placed in the tip of the tongue. The line of excision skirts the tumor by a margin of at least 1 cm. and includes resection of the inferior longitudinal tongue muscles and the genioglossus and geniohyoid muscles when necessary. The sublingual glands are usually removed with the tissue block. The mucosa of the undersurface of the tongue is sutured to the mucosa of the floor of the mouth. Absorbable ligature and suture material is used throughout. The technique of *limited local resection* is diagrammatically illustrated in figure 3 and photographically illustrated in figure 4.

Nasogastric feedings are administered through an indwelling plastic tube of small caliber for two or three days following operation. Thereafter, fluids and finally soft foods are given by mouth. The patient is discharged from the hospital ordinarily within a week after operation.

Comment

Because of the frequency of cervical lymph node metastasis, neck dissection on both sides in stages is advised. Neck dissection is usually carried out on one side three to four weeks after the intraoral procedure and on the other side, about four to six weeks later. Dissec-

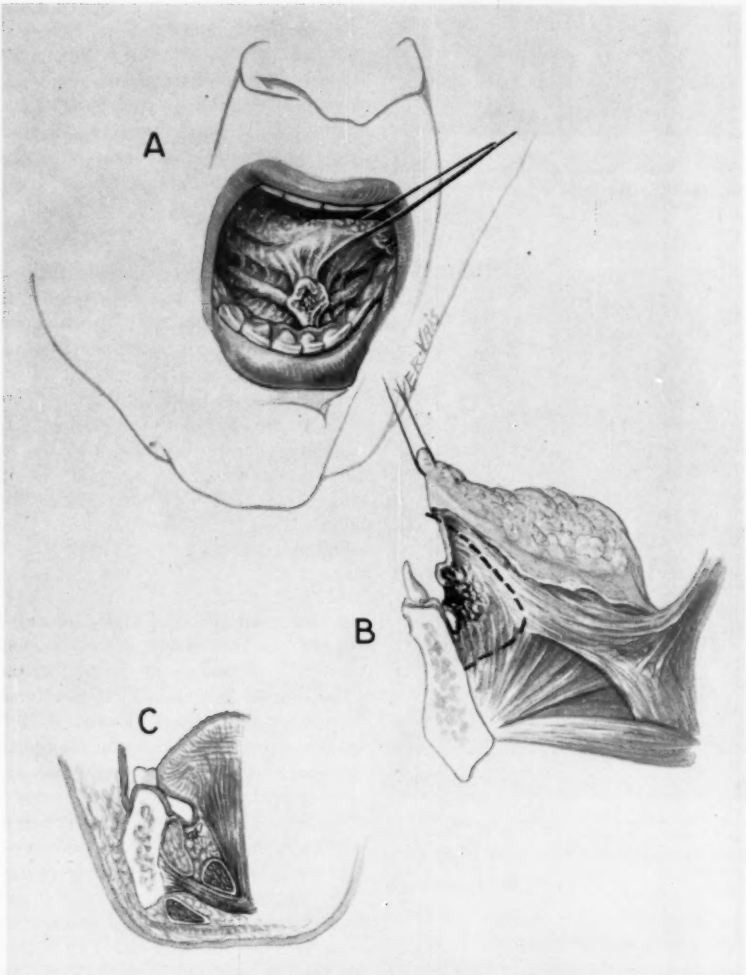


FIG. 3—Diagrammatic illustration of limited local resection of a small carcinoma in the anterior floor of the mouth. (A) Tongue tip elevated with a traction suture, exposing the lesion at the base of the frenulum. (B) Line of resection indicated in saggital section. (C) Closure by approximation of tongue and gingival mucosa.

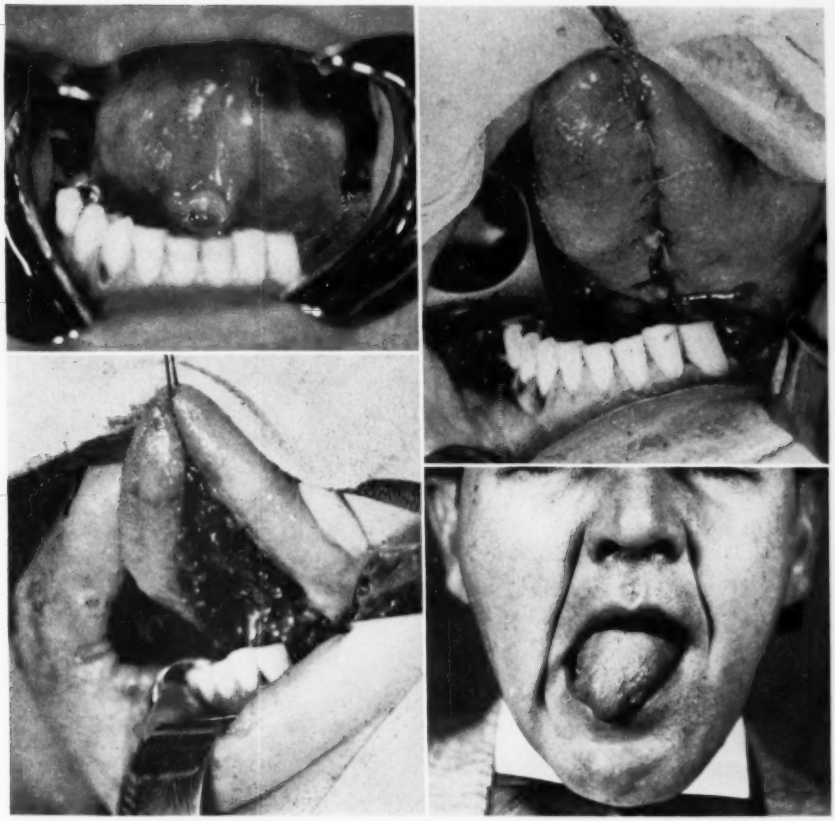


FIG. 4—R.C., 30415. (A) Small, moderately well differentiated epidermoid carcinoma at the base of the frenulum. (B) Operative defect following local resection. (C) Defect sutured. (D) Good tongue mobility (two months after operation).

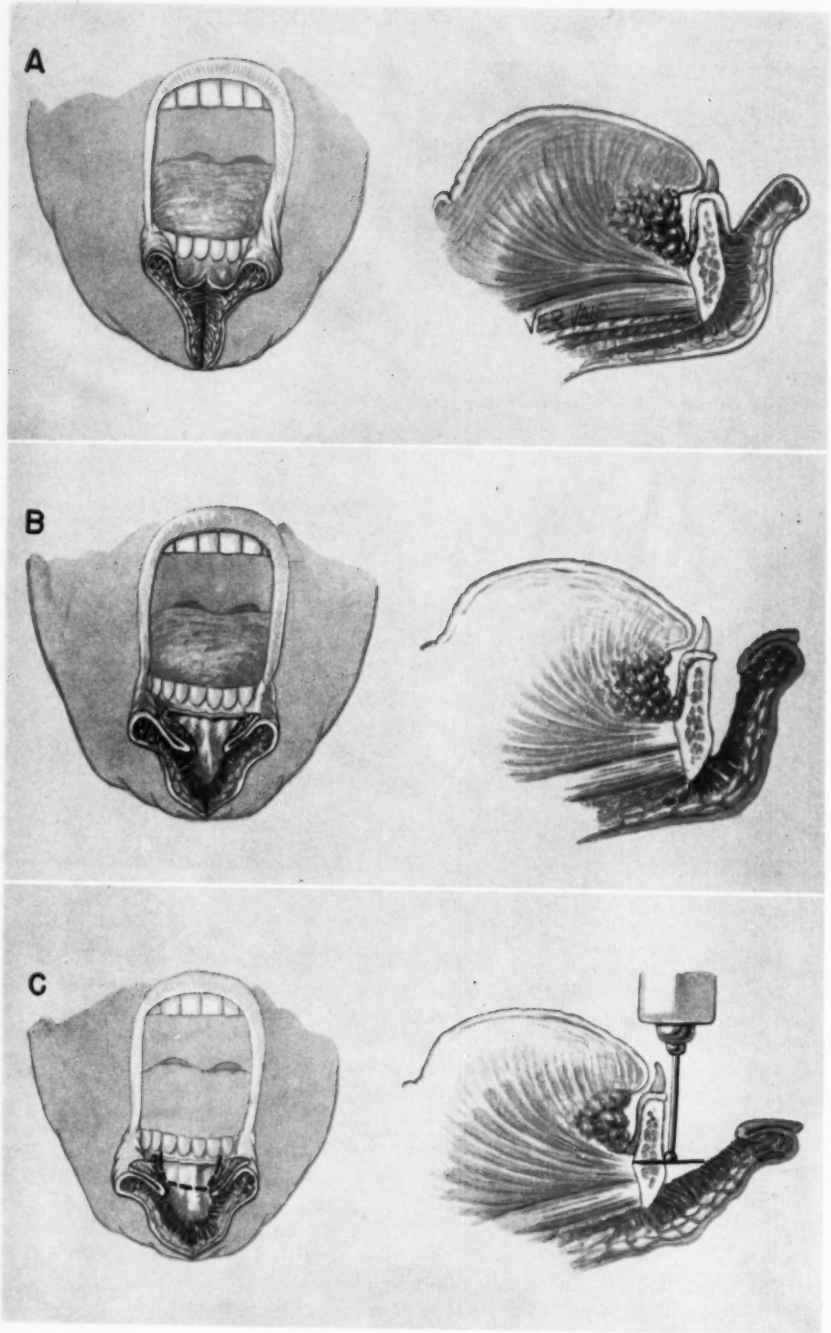
tions limited to the upper neck (suprahyoid and supraomohyoid) are considered inadequate. Carcinoma of the floor of mouth, like carcinoma of the tongue, metastasizes so commonly to both sides of the neck that bilateral neck dissection is indicated. Patients subjected to these operations do not complain of postoperative difficulties. Disfigurement is minimal; articulation, mastication and swallowing remain essentially normal.

RADICAL LOCAL RESECTION

This operation is indicated when (1) the lesion is confined to the anterior half of the floor of mouth, (2) the lesion encroaches on the lingual surface of the mandible, (3) the mandible is uninvolved roentgenographically, and (4) the cervical lymph nodes are not cancerous to palpation.

Method

The lower lip is split in the midline to just below the symphysis menti. The lip is turned down and out and the mucous membrane along the labiogingival line is incised to provide exposure. The gingiva is cut from molar to molar along its superior margin and is elevated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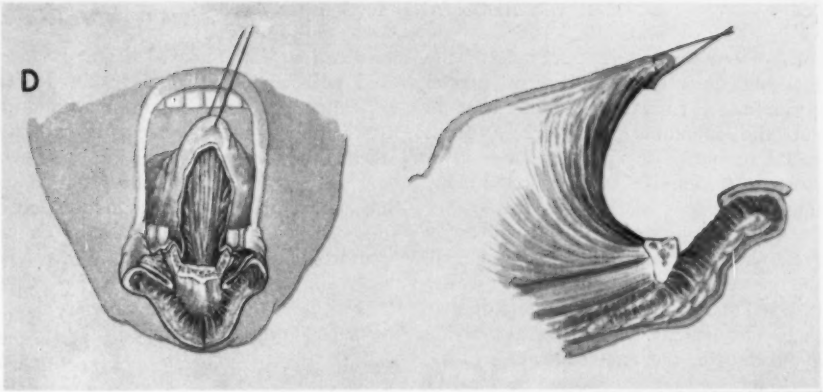
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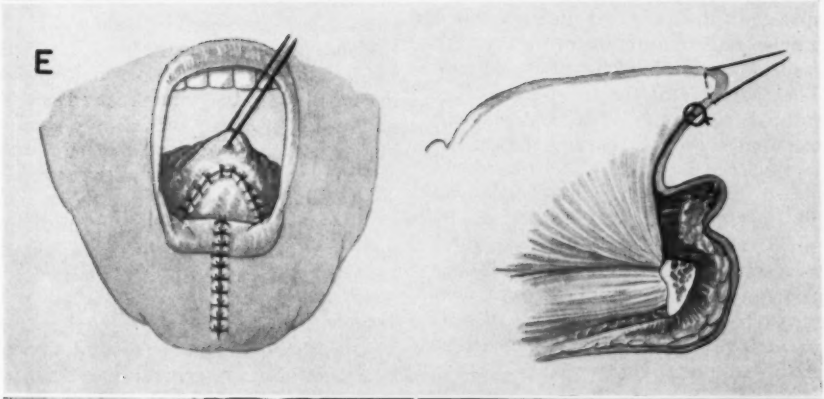
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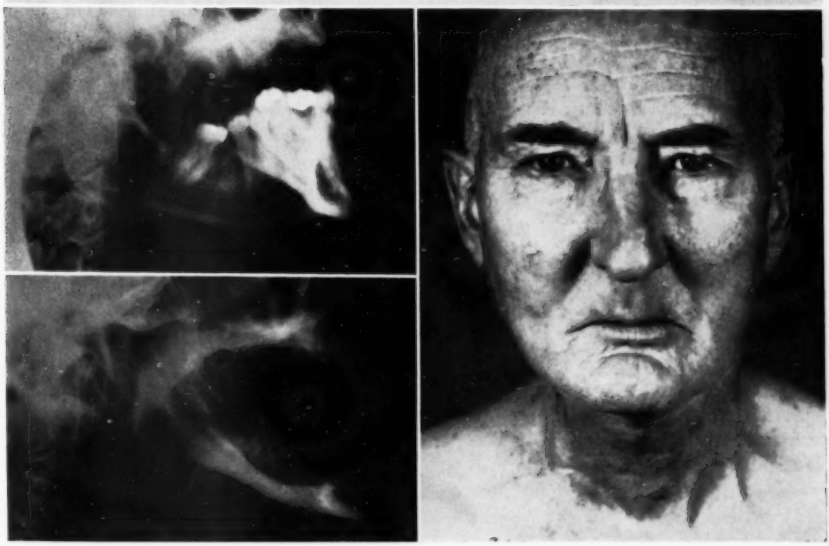

away from the external surface of the mandible down to the level of the mental foramina. A Luck bone saw is used to cut the mandible transversely from molar to molar, leaving an intact inferior rim of mandible. The isolated mandibular segment is tilted inward so that the lingual gingiva is elevated away from the intact mandible. The origin of the genioglossus is included with the resected mandible and the point of dissection is usually just above the mylohyoid muscle. The excised structures include the salivary glands and the undersurface of the tongue, including intrinsic tongue musculature as necessary. Absorbable sutures and ligatures are used. The free edge of the tongue mucosa is sutured to the previously elevated outer mandibular gingiva covering the cut surface of the mandible. The sutures are placed deeply to include the mylohyoid muscle, thus helping to obliterate the intra-oral dead space. The lower lip is then sutured in layers. Fine, nonabsorbable sutures are used for cutaneous closure. The technique and results of *radical local resection* are illustrated in figure 5 (see preceding pages).

FIG. 5—R.M. Radical local resection of carcinoma of the anterior floor of the mouth involving gingiva. (A) Midline lower lip incision provides exposure. (B) Gingival incision and elevation. (C) Segmental resection of mandible. (D) Operative defect. (E) Operative repair. Roentgenograms of mandible before and after operation indicate the extent of resection. A late postoperative photograph reveals little disfigurement from the lip and neck incisions. Some thickening of speech resulted but mastication remained unimpaired.

Nasogastric tube feedings are given for seven to ten days. Oral feedings are then permitted. Therapeutic neck dissections are performed in stages, as has been outlined previously.

Comment

Some permanent speech impairment results from this procedure. If the patient desires it, the tongue can be cut free later, giving increased tongue mobility with improvement in speech and mastication. The mucosal defect is covered with a split-thickness skin graft. Swallowing is relatively unimpaired and mastication is usually adequate without freeing the tongue. The fitting of lower dentures presents a problem, but it is not insurmountable. The functional results are good and the facial contour is unaltered.

RESECTION IN CONTINUITY

This procedure is indicated for large carcinomas involving gingiva or mandible and also involving tongue to a variable extent. There is usually clinical evidence of extension or metastasis to neck tissues. If the neoplasm involves the base of the tongue and its extent is not readily palpable and visible, examination is carried out under general anesthesia prior to the definitive procedure. Only under general anesthesia can one palpate the tongue musculature in the relaxed state and delineate a lesion extending into the base of the tongue.

Method

A tracheostomy is performed under local anesthesia. A general anesthetic is then administered through a sterile, flexible endotracheal tube placed into the tracheostomy stoma. A radical neck dissection is carried out on the side of the lesion, beginning inferiorly. However, the sternocleidomastoid muscle is separated from the other mobilized tissues and is left attached at its mastoid insertion. The block of tissue dissected from the neck is left attached to the mandible. The mandible is divided with a Gigli saw well anterior to the lesion, and the posterior segment is displaced, exposing the oral cavity. A portion or all of the tongue and the floor of mouth are then resected and removed with the tissues of the neck and the mandibular segment, which is disarticulated. The oral cavity is closed by approximating buccal mucosa to mucosa of the remaining tongue segment. If the entire tongue is removed,

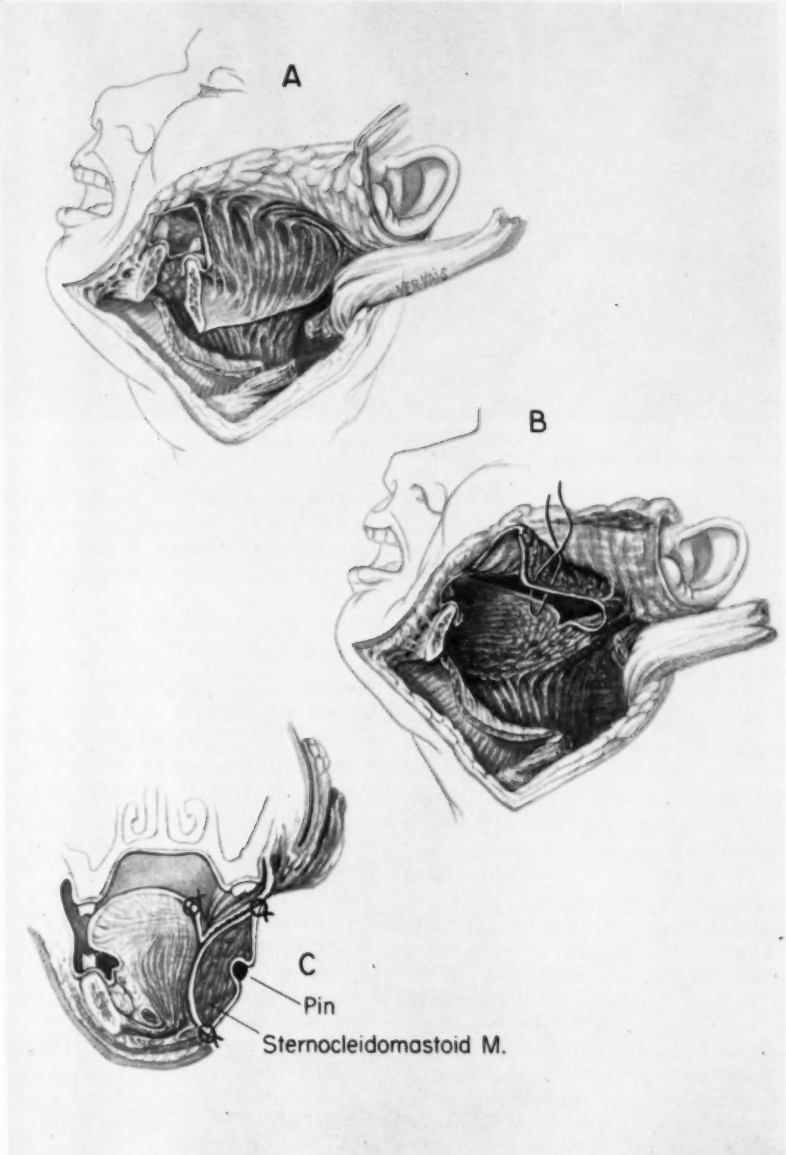

FIG. 6—Resection in continuity. (A) Neck dissection with preservation of part of the sternocleidomastoid muscle. The mandible has been divided. (B) Operative field following en bloc resection. Buccal mucosa is sutured to tongue mucosa. (C) Coronal section midway in reconstruction. Mucosal closure is complete. The relationship of the sternocleidomastoid muscle to buccal mucosa and metallic pin prosthesis is shown.

FIG. 7—C.F., 58-10788. (Left) Following in-continuity resection on the left. (Right) The mandibular pin prosthesis seen in roentgenogram.

care is taken to preserve uninvolved tongue mucosa for use in closure. Interrupted absorbable sutures are placed submucosally to reinforce the mucosal closure. An upper segment of sternocleidomastoid muscle is swung forward against the mucosal suture line as a pedicle attached at the mastoid. This muscle obliterates the dead space between mucosa and metal mandibular prosthesis, adds bulk to decrease the facial asymmetry, and buttresses the mucosal closure. The mandibular prosthesis consists of a Steinman pin with an acrylic bead fused to its unsharpened end. This pin is bent and shortened to appropriate contour and size. The beaded end is placed into the glenoid fossa and secured by sutures in surrounding capsule and muscle. The fore-end of the pin is fitted snugly into a drill hole in the medullary canal of the remaining mandible. Drains are placed through stab incisions prior to wound closure. The technique and result of *resection in continuity* are illustrated in figures 6 and 7.

A supraclavicular neck dissection on the opposite side with preservation of the internal jugular vein is sometimes carried out at the time of the resection in continuity. Otherwise, a routine radical neck dissection on the contralateral side is performed at a later date.

Comment

Some degree of impairment of speech, mastication and deglutition is an inevitable consequence of this radical procedure. The Steinman pin prosthesis provides good mandibular stability and permits mandibular movements which approach normal in speech and mastication. In cases of partial glossectomy the prosthesis provides space for tongue movement in speech, mastication and deglutition. The re-establishment of these functions makes dental prosthetic replacement of edentulous areas possible with the attainment of good masticatory efficiency. The mandibular prosthesis enhances the cosmetic result by virtue of restoration of facial contour. The use of the pin prosthesis has not appeared to be hazardous from the standpoint of infection. Migration and protrusion of the fore-end of the pin in some cases has led to the study of methods for prevention of this annoying complication.

SUMMARY

Surgical treatment of carcinoma of the floor of the mouth consists of resection of the primary lesion and removal of the regional lymph nodes. The extent of resection of the primary lesion is determined by its size, location and extent. A discontinuous type of resection with preservation of the mylohyoid muscle and delayed removal of the regional lymphatics is justified in most cases. When an *en bloc* resection with hemimandibulectomy is performed, a mandibular prosthesis consisting of a metallic pin is found to be advantageous.

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2. Morfit, Mason H.: Cancer of the mouth and neck, Postgraduate Medicine, 20:283-291 (Sept.) 1956.

DISCUSSION

JOHN J. CONLEY, M.D., New York: It is a pleasure to hear these two papers. I think that they both show a seriousness of attention to the work and an understanding of the problem that is certainly commendable.

Actually, I do not have any specific criticism. I do have several statements I will develop in the form of questions, however.

I think it was very appropriate in the paper by Dr. Snitman and his colleagues, read by Dr. Loewy, to bring in radiation. We are not in a position to condemn the roentgen therapist. I think it is important for us to try to appreciate why irradiation has failed in certain respects.

Radiation is not finished in this business—have no doubt about that. It is still important in the treatment of cancer and will be until the "magical pill" is discovered. But why has it failed?

I think the most important reason perhaps concerns the biology of the tumor. There are some tumors that irradiation cannot cure, and the ones that it cannot cure are probably those which cannot be cured surgically either.

If your patient has a tumor with a great affinity for dissemination throughout the body, which is aggressive, with biological tendencies which are uncontrollable, then he will probably be killed by that tumor regardless of who treats him or by what method he is treated. This is the biological process. We have no control over the biological process, and neither does the roentgen therapist.

If the tumor is slow growing, on the other hand, if it is one that remains localized, is not aggressive, and lends itself to therapy of one type or another, such a biological process can be treated and the patient will probably be cured of his desease. The tumor-host relationship is well balanced in favor of the host, not the disease.

The second reason for failure of roentgen therapy is poor technique. Either the therapist uses an inadequate tumor dose, or the size of the ports are inadequate, or the ports are not properly positioned and the direction of fire is not in the proper plane.

This is poor technique on the part of the roentgenologist. But don't forget that, we, too, are liable to use poor technique; I won't elaborate on that.

The third reason for failure of roentgen therapy is poor judgment. There are two points at which poor decisions have defeated most of the therapists. One is when they persist in treating a persistent tumor. I think radiationists would be much smarter if, when they recognize that a tumor is not responding to radiation, they were to stop and recommend surgical intervention. Many of them, however, in their hope that eventually they can control the tumor will insist on continuing treatment. Persistent tumors are, on the whole, incurable with radiation; and this decision is foolish, this is folly, and, I must stay, a waste of electricity.

The other evidence of the poor judgment is the therapist's insistence on treating the large tumor which has extended beyond the primary site. It has metastasized. It has been demonstrated in these papers that when the cancer has involved the tongue, the floor of the mouth and the mandible, and has metastasized to the neck, the incidence of cure with radiation is zero, but the incidence of cure here with surgical treatment may be anywhere from 15 to 35 per cent.

Now, in reference to Dr. Snitman's paper I would like to state that about 15 per cent of my cases of carcinoma in the oral cavity are multicentric. In other words, in these cases we are not dealing with one lesion. Eventually two or three or four lesions must be dealt

with, and in such cases the patient usually succumbs to the disease.

I would like to say something about metastases in respect, primarily, to Dr. Grandon's paper. He stated that he does elective neck operations in all of his cases. He had three categories: the small lesion that was less than 2 cm., noninfiltrated and freely mobile; the moderately advanced lesion; and the composite lesion.

In the early lesion, according to my experience, he would have an incidence of no more than 10 per cent metastases to the neck. This means that 90 per cent of the neck dissections which he does are not necessary. I would like to ask him, therefore, whether he thinks this is a mistake in judgment.

In the more advanced cases, in which the lip and the floor of the mouth or the tongue are involved, we know not only that the lesions are larger but also that they are older. When they are older, they have had a chance to penetrate deeper, and they have had a chance to metastasize. I would say that 80 or 90 per cent of the lesions which are over 4 cm. have metastasized to the neck—at least microscopically. In this case, elective neck dissection is justifiable on the basis of percentages. But I do not think that elective neck dissections are justified as prophylaxis. If cancer is in the neck, it is there and you are not preventing anything. If the technique is carried out 100 times and if 90 times it is unnecessary, I think we better re-evaluate this particular activity.

I agree with you that cancers of the floor of the mouth are usually mature cancers. They are slow growing cancers and they metastasize —yes, later. But I would also like to make another quotation from your paper: "patients subject to these operations do not complain of postoperative difficulty." Well, that hasn't been exactly my experience, and I would say this is a rather optimistic statement.

I am happy to hear you have had good luck with the Steinman pin. I think it is a good way to rehabilitate the mandibular arch. I have had good luck with it, too. But some people have not.

Now, I would like to call attention to the salvage rate mentioned in Dr. Snitman's paper. I know that in large clinics most of the cases seen are far advanced. In Dr. Snitman's series—a rather small but significant one—he had a 4 per cent mortality, which I think is acceptable for these larger operations. He has an 18 per cent five-year cure rate, but there are an additional seven patients who have lived more than three years postoperatively. This may give him eventually a cure rate in the neighborhood of 25 per cent. For the advanced lesions, this is a very acceptable figure. His cure rate for carcinoma of the cheek, palate and anterior pillar is in the neighborhood of 40 or 50 per cent.

I would like to make one comment about the use of the word "commando." I notice that Dr. Snitman referred to it only as an expression that was used, not as one which he had adopted. I do not think we should use the word "commando." It is a military term. It arose shortly after the Canadians and the Americans made their famous and unfortunate raid against Dieppe, where the Germans wiped many of them out. The operation was being done in New York at that time, and one of very imaginative young residents called it "a commando operation"; in a flair of war energy and imagination, this term caught on. I propose that the term to be used should be "a composite resection" of the organs involved.

DONALD A. CORGILL, M.D., Dallas: I, too, thoroughly enjoyed these papers.

The radical surgical approach to tumors of these areas is the best way available to most of us today. The term "adequate," so properly used in the first paper, is certainly a more meaningful term, but until we have all adopted it (and probably we should), I again want to stress the word "radical," as a term which today has a more forceful connotation to most of us.

You saw Dr. Grandon's horror pictures of the terminal stages of cancer arising in the oral cavity which had been untreated or inadequately treated. It was my duty as senior resident, about twelve years ago, to care for a ward containing twelve or more patients with similar cases. At that time only a few of the most recent lesions were considered operable; the larger lesions were given roentgen therapy, not necessarily because the roentgen therapists wanted to treat them but because this therapy was the last resort. Most often it did not cure them nor did it even provide palliation for them. After approximately six months of this harrowing experience I petitioned my supervising consultants, Dr. Robert Votaw and Dr. Edward Lyman for permission to perform very radical en bloc surgery upon these unfortunate patients with cancer originating in the pharynx, hypopharynx, larynx, and base of the tongue, hoping only to palliate these patients substantially.

They readily agreed and, furthermore, stood by and accepted full responsibility for en bloc radical resections of the primary tumors including neck dissections, which for all of us was a new and somewhat frightening experience. The obvious palliative results at the end of six months were so encouraging that I became totally radical in my thinking and have remained so ever since. In my opinion there is no place for a timid surgeon in the treatment of these lesions today.

And now, paradoxically, referring to Dr. Grandon's paper, I stand with John in objecting to the performance of staged elective bilateral neck dissections for small, slow-growing, anterior mouth lesions. In such cases, I would prefer to wait for positive evidence of metastatic disease, the incidence of which I would not expect to be high. This is in contradistinction to my stand regarding most laryngeal lesions and all pyriform sinus and hypopharyngeal lesions, in which the incidence is needed high and in treating which I routinely perform a neck dissection on at least the involved side at the original surgery. In general I am delighted with these two papers, but I have some slides which I would like to show to demonstrate my small differences with these authors.

[Slide] Mr. L. H. K. This is a lesion on the anterior floor of the mouth and the undersurface of the tongue, recurrent approximately two years following radium needle implantation. It is certainly larger than 1.5 cm.; furthermore, it is now an old lesion. I have learned to be frightened of old lesions, the ones that have had less than adequate surgery or roentgen therapy or both; a year or two later you are again dealing with the same lesion. I tend to treat these most radically.

[Slide] This is Mr. L. H. K. in surgery. The operation was a one-stage bilateral radical neck dissection with the preservation of one internal jugular vein. The excision of the lesion on the floor of the mouth and tongue included the adjacent medial portion of the mandible and all the anterior tongue with the exception of the mucosal surface. I prefer to section the mandible vertically and remove the portion nearest the tumor with its periosteum and lymphatics, in this manner leaving the external rim for the preservation of the mandibular continuity.

[Slide] This is the specimen. You see the piece of mandible as an en bloc portion of it.

[Slide] Here you can see that this patient has nothing left but the mucosa of the anterior tongue. He had a little trouble throwing his food to the posterior pharynx in the act of swallowing. A specially constructed thick lower plate was made. He obviously learned to do quite well, since he has maintained his weight for the past eight years. This patient demonstrates my disagreement with Dr. Snitman's view that surgical procedures that interfere with the function of the tongue should probably not be done.

[Slide] This is the patient approximately six years later; he is currently alive and well nearly eight years after the operation.

I view with some trepidation the use of pins or other foreign materials to replace these resected mandibles. I have had many cases in which a large portion of the mandible was removed without any replacement and have had mandibular drift in only one, in which more than half the mandible had to be removed, including all of the tongue. The mandibular function was not important to this patient, since he placed all of his food, including meat, in a drink blender and then simply poured the homogenized liquid down his large funnel mouth and increased his weight on this regimen.

My residents have lately resected three mandibles for access to a tumor area, and then have wired them back together, using stainless steel wire. In all three cases the third of the mandible which I would ordinarily have removed en bloc with a specimen has had to be removed because of osteomyelitis or fistulization.

However, I must also confess that my prosthesis maker, who does almost as much for our maxillary resection patients as we do in the nature of rehabilitating them for eating, speech, nasal function and cosmetic appearance, has lately been hounding me to put something back in so as to make his lower plate problem easier. I may indeed have to try it.

Now, referring specifically to the paper by Dr. Snitman and his associates, I believe this to be the finest example of medical writing I have ever had the pleasure and privilege of reading. Dr. Snitman's superb use of language leaves absolutely no doubt of his meaning, and I strongly urge all to read it when it is published even if you are not particularly concerned with cancer.

As to its context I certainly agree in general with the aggressive all-out radical first attack theme. I disagree only with reference to specific tumors or specific tumor bearing areas.

[Slide] Mr. F. W. This is the specimen of a total tongue resection combined with larynx and one-stage bilateral neck dissection. Dr. Snitman holds that a lesion is to be considered inoperable if its removal will produce malfunctioning or nonfunctioning or total loss of the tongue. I have totally removed many tongues, and the results have indeed been gratifying. This patient had microscopically proved metastatic lesions in both sides of the neck.

[Slide] This is our twenty-first group picture of a series now numbering twenty-six, in which you see 24 patients who have undergone a radical operation for cancer of the oral cavity, pharynx, hypopharynx, larynx, tonsil. All seven patients in the lower row have had either one-stage bilateral radical neck dissection in continuity with the primary operation or staged bilateral neck dissections. Here is Mr. F. W. more than five years postoperatively; he has not received roentgen therapy at any time.

[Slide] Here is our twenty-sixth group picture containing 26 patients. Here again is Mr. F. W. seven years postoperatively.

During the past eight or nine years I have made a forty-minute color film depicting these very radical operations. This film represents most of my life's work. I showed it completely yesterday and this morning I simply snipped out a strip showing three consecutive cases, which will adequately demonstrate my thinking.

[The film was shown.]

Mr. H. R. As you can see, externally there is a 5 cm. mass in this young man's neck; intraorally, you can see that the tumor involves the entire right hemipharynx and tonsil and extends up the postpharyngeal wall higher than the level of the soft palate. It also involved the pyriform sinus and the right base of the tongue. In my experience roentgen therapy will not even palliate this man. Surgical intervention is mandatory. The extent of the excision included hemimandible, hemitongue and hemipharynx. This was, of course, combined with right radical neck dissection to remove the 5 cm. metastatic lesion. About the end of the first postoperative year contralateral neck dissection was required for a palpable metastatic lesion. This man remained alive and well without radiation therapy for about three years. At the end of the three years it was discovered that he had developed an inoperable bronchogenic carcinoma; I suspect that he is probably dead now. However, he was able to go home and work his ranch for three years.

In the initial operation the base of the tongue, a huge organ, was resected to the left side of the epiglottis, e.g., more than one half of it was removed. This is a face-splitting operation and you will note that approximately two fifths of the mandible has been removed, yielding a very adequate approach to this entire tumor mass. The sectioning of a tongue in the midline including the base lends itself to a very simple and effective method of closure. Here (on the film), the pharynx has been sectioned to the nasopharynx in the midline, totally encompassing the tumor, and the cut edge of the pharynx is simply sewn, inferiorly to superiorly, to the superior cut edge on the tongue. Finally at the point where the tongue must go forward, and the pharynx must go upward; the remaining superior cut edge of the tongue is attached to the mucosa of the cheek where it was sectioned in the gingival sulcus when the mandible was removed. Then the skin flaps are sewn up and the job is done. There has been no trouble with postoperative healing in cases of this nature provided the patient has not had previous radiation therapy.

This patient had no pin or other replacement put in his mandible and here in this intraoral view you can see that his tongue has grown fast to the right side of his cheek. The remaining tongue is quite mobile. The patient is not aware that his hypoglossal nerve has been removed. He speaks clearly, is able to masticate food without recourse to a special diet, and has never voiced a complaint.

The next sequence illustrates the worst case in my experience. This tongue is all cancerous except for one centimeter at the tip. It is stony hard; it has overgrown the molars on the right so that the patient is actually chewing it when he tries to eat, and he already stinks due to advancing necrosis. The tumor extends posteriorly to the epiglottis and laterally and inferior-laterally to invade both sides of the posterior pharyngeal wall. The tumor was an anaplastic carcinoma, and, of course, I did not hope to cure this man, but I certainly hoped to provide significant palliation.

This scene in surgery shows the huge U-shaped flap, which is dissected all the way to the lower edge of the mandible. The operation is a one-stage simultaneous bilateral radical neck dissection with preservation of one vein, with total excision of the tongue and larynx and all of the pharynx excepting a 1

cm. strip extending from the nasopharynx to the cricopharyngeous muscle. You will notice that the dissection is right down to the very wall of the vein. It is a simple technique designed to come from lateral to medial and to remove all lymphatics crossing anteriorly to the vein, and has been quite successful in my hands over a ten-year period. It adds two hours to the operation. Of course, if we find the carcinoma is adherent to the vein we then resect the vein. If the vein on the opposite side then cannot be dissected, we must then, of course, simultaneously remove both jugular veins. Considering the reports from surgeons all over these United States who have done this operation and the disturbing, though not fatal, postoperative courses of some of my own patients, I think that when I am forced to follow this procedure in the future, I shall place a vein graft on one side to restore one vein provided the color of the skin of the patient's head is so cyanotic as to suggest the need for a graft. Frenckner in an article titled "Sinography, especially with Reference to Block Dissection of the Neck" (Acta oto-larying., 49:273-281, 1958) demonstrates the possible need for a graft, even occasionally when only *one* side of the neck is involved with ligation of the internal jugular vein.

One of the principles that I strictly adhere to is—never worry about closure during the surgery lest you subconsciously begin to resect too close to tumor. But now, as you can see, at this point we began to worry. Skin grafts often provide a way out. This man had for the anterior wall of a new pharynx and hypopharynx and both lateral walls and portions of both posterior walls only the raw surface of the elevated flap. We simply took a large skin graft and sewed it to all possible cut edges of mucosa. Naturally, it didn't fit properly, but we hoped for a miracle to provide an adequate foodway. We then replaced and sewed up the flap, put a large pack in the patient's mouth to hold the graft against the raw surface of the flap, and went home wondering what would happen. Much to our amazement, this man healed primarily, developed no leaks, was drinking water in seven days, and had a huge funnel through which he could put any semiliquid food from a blender with no difficulty. This was indeed a miracle, and I suspect it will never happen again. We may have made one serious error. We felt that we had probably not encompassed the tumor on the left side and that there was possibly some remaining cancerous tissue in the left nasopharynx near the internal carotid artery. Cancercidal roentgen therapy was delivered to the left pharyngeal and nasopharyngeal area. The man then went home and was able to work. Approximately seven months later it was reported to us that he suddenly bled to death one evening. Hemorrhage may have been due to the roentgen therapy to the carotid area or there may have been tumor invasion of the carotid, or a combination of both. But at least this man had been able to go home with no odor or pain with an unobstructed airway and foodway, and was able to increase his weight and to work.

DR. SNITMAN: I think our paper has served its purpose. You have heard the paper by Dr. Grandon and the discussions by Dr. Conley and Dr. Corgill, actually confirming and abetting a surgical attack on carcinoma of the oral cavity.

I wish especially to thank Dr. Conley and Dr. Corgill for their kindness in the discussion of our presentation.

I wish to close by making a comment about the work presented by Dr. Grandon. I refer to his recommendation of a bilateral elective dissection on the neck at different times on limited lesions of the floor of the mouth. I agree with Dr. Conley wholeheartedly that such a procedure is not readily accepted, for experience in the management of such lesions has not yet warranted elective neck dissections.

DR. GRANDON: I wish to thank Dr. Conley and Dr. Corgill for their discussion. It is of interest to us that Dr. Conley has also had success with the use of the Steiman pin following partial resection of the mandible.

We are aware that routine radical neck dissection for floor of mouth cancer is not currently in vogue. However, the size of the primary lesion does not always dictate the metastatic spread. The incidence of cervical lymph node metastasis is higher in our experience than in the experience cited by Dr. Conley. The routine radical neck dissections are intended to remove lymph nodes which, although palpation reveals no enlargement, do contain microscopic cancer. Thus it is hoped to eradicate the cervical metastatic lesion before it becomes inoperable or is neglected by the patient. As the risk of radical neck dissection is small and the procedure does not cause disability, it seems to us that it is justified as a routine procedure to improve the salvage rate. If we could determine with certainty the patients who do not have microscopic metastatic lesions of the cervical lymph node, we would, of course, not subject them to radical neck dissection.

ENDOGENOUS INTRAOCULAR FUNGUS INFECTION

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METASTATIC vitreous abscesses due to fungi are exceptionally rare in the absence of known systemic disease.

Cogan[3] has made a thorough search of the endogenous intraocular fungus infections reported in the literature and added one of his own. In these cases the causative organism was blastomyces in three cases, an actinomycete-like organism in three cases, and a cylindric branching fungus thought to be Aspergillus fumigatus in six cases. Another case of an intraocular infection due to cryptococcus has been reported by Weiss and his colleagues.[12] In Cogan's case the onset was characterized by loss of vision, redness, chemosis and proptosis, without any evidence of systemic disease. The tension, which was low at first, became elevated and the eye was enucleated because of pain. Histologically he reports that the significant feature was the presence of abscesses, with many giant cells in the vitreous and in the inner portion of the retina. Fungus fragments consisting of cylindrical bodies having a dichotomous type of branching and rare septums were present in the vitreous abscesses.

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Wadsworth[11] describes a case of intraocular Mucor infection. This is the only known case in which this type of fungus involves the eye alone, and the portal of entry was not known. Apparently, it was endogenous. The clinical picture which developed over a period of approximately eight months resembled Coats's disease.

Birge[1] in his comprehensive review of ocular aspects of mycotic infection states that Aspergillus is a large group of easily isolated fungi and that A. fumigatus is probably one of the few pathogenic varieties. The lungs are most frequently involved and are often the primary site. He recognizes two types of ocular mycotic infection: (1) infection by fungi which produce superficial lesions only, and (2) infection by fungi which produce both deep systemic and ocular lesions.

Aspergillus fumigatus may produce an intractable chronic ulcer of the cornea and has been reported as causing perforation of the cornea with eventual loss of the globe.[2] Vitreous infections have been reported which were thought to be endogenous and eventuated in the loss of the eye.[6,8]

Rychener[7] reported a case of intraocular aspergillosis following a penetrating injury and cited 18 other cases of intraocular mycotic infection of various types.

Verhoeff[9] reported a case of uveitis caused by an actinomycete-like organism

in one eye of a patient after a postoperative infection caused by a fungus of a similar type in the fellow eye. Verhoeff[10] also reported a primary chorioretinitis caused by an actinomycete-like organism occurring in a patient after a febrile illness.

Harley and Wedding[5] described a case due to actinomyces which resembled the Vogt-Koyanagi syndrome. The fungi were cultured from aspirated aqueous humor and also injected into rats.

Conant and his colleagues[4] indicate that aspergillosis may occur as inflammatory granulomatous lesions in the skin, external ear, nasal sinuses, orbit, eye, bronchi or lungs, and occasionally in the bowels and meninges. Aspergillosis of the nails has been described. Diagnosis is based on finding mycelial fragments and conidiophores on direct examination of the tissue and obtaining a culture showing the typical spores and spore chains. Unfortunately, in the case of endogenous infections a culture is rarely made.

CASE REPORT

L. K., an attractive 48 year old wife of a wealthy executive, was perfectly well until September 17, 1956, when she experienced an irritating sensation and tearing of the left eye. She stated that two days later both left eyelids became swollen and severe pain developed in the left eye. She had had an uneventful medical history except that she had felt extremely nervous and had a known addiction to the excessive use of alcohol. There was no history of trauma to the eye. She consulted her general physician, who prescribed topical neomycin-prednisone medication. She reported that this therapy relieved her pain, but the following day she noted loss of vision in the left eye.

The patient was first seen by one of us (J.E.M.) six days after the onset of symptoms. The corrected vision of the right eye was 6/6 and the vision in the left eye was ability to count fingers eccentrically at one-half meter. Mild scleral infection, tenderness on palpation and conjunctival chemosis were present in the left eye. The pupils were equal in size, regular in contour, and showed the normal reflex responses. Biomicroscopy disclosed that although the cornea was normal, numerous cells were present in the anterior chamber of the left eye. There were no keratic precipitates. The iris and lens were normal. Ophthalmoscopy disclosed the presence of a large gray mass in the vitreous chamber. It was estimated that this opaque mass occupied at least three quarters of the vitreous chamber. Around the edges of this mass a red retinal reflex could be seen. The right eye was entirely normal. The patient was hospitalized immediately.

The physical examination, with the exception of the left eye, revealed few positive findings. An abscessed lower right molar, discovered by routine roentgenography, was extracted. No cultures were made by the dentist. The fingernails and toenails were affected by a moderate low-grade fungus infection. Scrapings of the nails were made and sent to the pathologist for culture and identification. The direct preparations and cultures did not show fungi. The patient had a mild unsteadiness in gait and a moderate tremor of the hands. Both of the signs were judged to be related to the imbibition of alcohol. Roentgenographic studies of the skull, chest and sinuses were normal. Throat smears evidenced no fungi. The serologic test for syphilis and the urinalysis were normal. The white blood cells were elevated to 12,000 but the differential was normal.

The diagnosis at this time was metastatic vitreous abscess of undetermined origin.

A series of ten intravenous, triple typhoid vaccine injections were given in order to induce artificial fever. The fever response varied from 100 to 101 degrees Fahrenheit with increasing doses up to 225 million organisms. Local therapy consisted of topical atropine sulfate 1 per cent administered every four hours, and cortisone solution 2.5 per cent administered every two hours. Chloramphenicol 250 mg. every six hours and triple sulfonamide compounds 1 gram every six hours were given systemically.

The inflammation was apparently responding to treatment, since the eye was becoming less painful, the ciliary injection was less marked, and the gray vitreous mass was smaller with a clearly defined limiting membrane. About the edge of the mass one could see more retinal details. The patient was discharged from the hospital as improved on the fourteenth day.

Two days following her discharge from the hospital, the eye became somewhat more congested and painful. Her general physician began systemic cortisone therapy, 25 mg. every four hours, and the patient reported that within two days the eye lost all light perception.

The eye examination one week after cortisone therapy was commenced disclosed the complete absence of the fundus reflex. The globular mass previously described could not be recognized, and a gray opaqueness now filled the entire vitreous chamber. The ocular tension remained normal although the eye was becoming more painful and tender on palpation. A thick yellow exudate developed in the anterior chamber, which finally resulted in occlusio pupillae. The cortisone was stopped immediately.

The patient was readmitted to the hospital for another course of intravenous, nonspecific, triple typhoid vaccine therapy. The topical and systemic medications begun at the previous hospital admission were continued. Within one week the exudate had disappeared from the anterior chamber and the eye became comfortable.

Within two days following cessation of the foreign protein therapy the eye became congested and painful. Consultation was arranged and enucleation was advised. The eye was enucleated November 23, 1956, and a tantalum mesh ball was fixed to the ocular muscles and covered by conjunctiva.

One year later the left socket appeared to be in good condition and the right eye was completely normal. The patient was perfectly well and there has been no illness or history of additional metastatic processes.

The final diagnosis was endophthalmitis due to vitreous abscess of unknown origin.

PATHOLOGIC REPORTS

Gross

The specimen consists of a fairly firm left eye measuring $24.5 \times 23 \times 24$ mm. with 1 mm. of optic nerve attached. There is dim transillumination except directly along the pupillary axis. There is a superior pannus but the cornea is otherwise clear. The pupil is round and centered; however, the border appears finely notched. Small hemorrhages appear on the surface of the iris. There is a blood clot in the subconjunctival region at the limbus from 10 to 12 o'clock. The eye is opened in the vertical plane. The anterior chamber, iris and lens appear normal. The retina is detached. Fluid exudate surrounds the central thick stalk except superiorly where this mass adheres to the choroid. The retina is in the middle of the stalk, surrounded by a solid exudate and coated with pigment. The choroid is detached.

Microscopic

A fibrovascular pannus undermines the epithelium peripherally. The anterior chamber is deep and free of exudate. The slightly atrophic iris is firmly adherent to the anterior surface of the lens and a delicate fibrovascular membrane extends across the anterior lens capsule in the pupillary zone. Degenerative changes are seen in the lens cortex peripherally. The vitreous body contains multiple abscesses. The polymorphonuclear leukocytes present within these abscesses are largely necrotic. Scattered throughout the abscesses are fragments of disintegrating mycelial structures. These are rather large nonseptate tubular structures resembling a species of Mucor. A wall of proliferating granulation tissue passes from the inner surface of the retina into the vitreous in an attempt to wall off the abscess. The retina is completely detached and disorganized. Bloody exudate is present in the subretinal space. There is a broad area of scarring and nonspecific chronic inflammatory reaction in the choroid on one side.

Diagnosis

Purulent endophthalmitis with vitreous abscess due to a fungus, probably a species of Mucor.

Further studies, including special stains, have been made on the eye in the case of L. K., accession no. 785857. The new sections and special stains reveal the mycelial structures to be septate and to have staining characteristics more consistent with swollen Aspergillus hyphae (figs. 1 and 2). The diagnosis of mucormycosis is, therefore, being retracted. Actually, however, the fungus shows such degenerative changes that a generic diagnosis cannot be accurately made. The fungi present within the vitreous abscess are difficult to identify with the usual hematoxylin and eosin stained sections. By means of a special fungus stain using the Gridley technique, the mycelial forms can be demonstrated in abundance within the vitreous abscess.

REPORT OF DR. JOHN MC GAVIC

I am in agreement with the diagnosis of *endophthalmitis with vitreous abscess* made by the Armed Forces Institute of Pathology.

It is my feeling that more attention should be paid to the area of choroiditis which is mentioned in the report. This area is fairly well localized and there is no extension of the inflammation into the sclera. However, there is some irritation and proliferation of the pigmented epithelium of the retina. This reaction in the choroid has caused a hemorrhage into the subretinal space with separation of the retina from the choroid. The retina shows some inflammatory changes and marked folding. The abscess in the vitreous might be considered as an extension of the choroidal lesion rather than as purely metastatic. As you know, most metastases due to inflammation or infection occur in the retina rather than in the choroid, whereas tumors extend to the choroid rather than to the retina.

While it is true that the retina is involved in this case, it is my impression that the choroid is the tissue which is primarily involved. It appears that the vitreous was involved secondarily.

There are posterior synechias without much evidence of inflammation in the anterior segment. This is because the inflammation behind the lens is rather marked and there is surface exudate over the vitreous and beginning cyclitic membrane. The eye would have become phthisical in a short time.

COMMENT

Similar to most of the other cases of aspergillar mycosis, the infection of the eye occurred in a patient who showed

no evidence of fungus infection elsewhere in the body. The patient denied any knowledge of ocular trauma. In considering primary intraocular fungus invasion one must exclude (1) the possibility of contamination at the time of or immediately following enucleation, and (2) the occurrence of fungi as secondary invading organisms.

The first possibility seems easily disproved when one considers that the enucleated ball was placed immediately in formalin solution and that the fungi are restricted to the abscesses and can be found in no other part of the specimen. The second possibility is unlikely, since the mycelial structures can be identified clearly within the multiple vitreous abscesses. This observation together with the absence of other organisms and the nature of the granuloma is suggestive of a primary fungus infection.

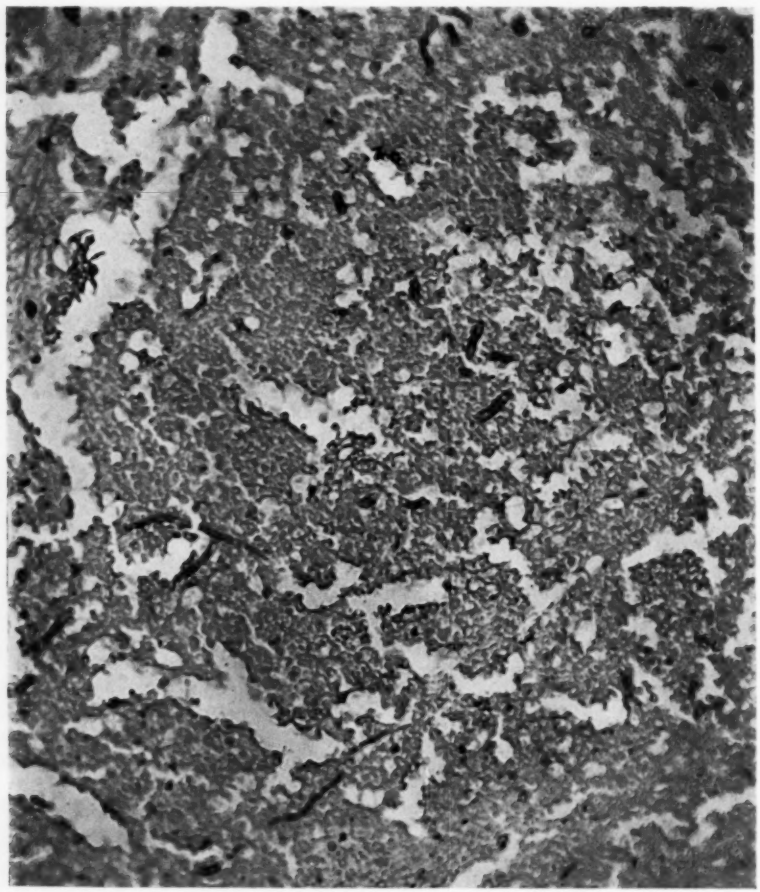

FIG. 1—Septate mycelial structures in a vitreous abscess having staining characteristics consistent with swollen aspergillus hyphae. (× 255)

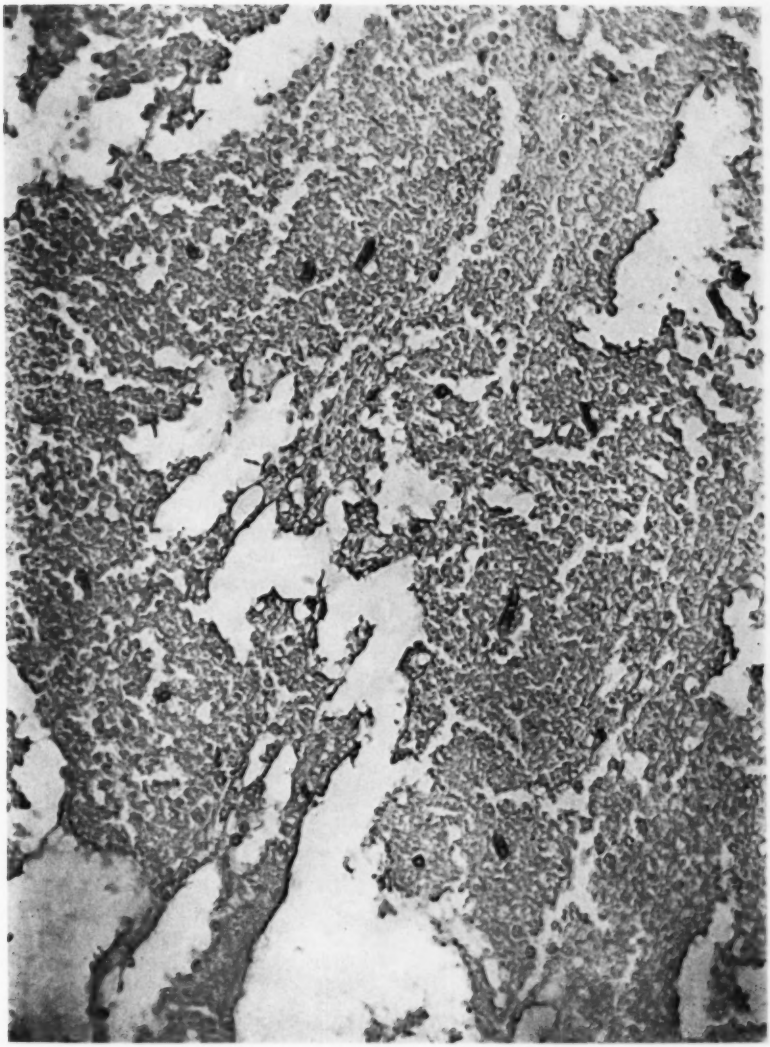

FIG. 2—Mycelial structures within a vitreous abscess demonstrated by means of a special fungus stain using the Gridley technique. (× 255)

A positive identification of the fungus cannot be made, since the necessary evidence regarding the cultural characteristics is lacking. Actinomycosis is ruled out by the absence of ray mycelia. The presence of mycelia and the absence of endospores rules out blastomycosis, coccidiosis and rhinosporidiosis.

Staining by the Gridley technique indicated that the mycelial structures were septate and had staining characteristics more consistent with swollen Aspergillus hyphae rather than a species of Mucor which was suspected at first. Since the fungus exhibited such degenerative changes, a generic diagnosis of Aspergillus could not be made.

The unusual feature of this case was the apparent deleterious effect of systemic corticosteroid therapy on vitreous abscess formation due to Aspergillus. Following the use of systemic steroid the wall of the contained abscess was observed to disintegrate, allowing the infection to occupy the entire vitreous. Microscopically, a wall of proliferating granulation tissue extending from the inner surface of the retina into the vitreous was observed. This may have represented an attempt to contain the intraocular abscess.

The possibility exists that the relationship of steroid therapy to the clinical worsening of the eye was coincidental. It was our impression and the patient's observation that the eye became markedly poorer within twenty-four hours after administration of systemic steroids.

All light perception was lost after forty-eight hours. The rapid reversal of the clinical condition of the eye after two weeks of relative improvement did not impress the observers as a coincidence.

The treatment of intraocular fungus infections is not satisfactory even when the causative organism is known and has been identified. In the early stages, systemic infections have been reported to respond to drainage and iodide therapy.

SUMMARY

1. Endogenous intraocular fungus infection is a relatively rare diagnosis. Fourteen cases have been previously reported. An additional case, apparently resembling Aspergillus infection, is described. By including the present case, Aspergillus was the causative organism in seven of the fifteen reported cases.

2. The unusual feature of the case here reported was the apparent deleterious effect of systemic corticosteroid therapy on vitreous abscess formation due to Aspergillus.

3. The rapid dissolution of the limiting membrane of the abscess in the vitreous suggests that systemic corticosteroid therapy may be contraindicated in Aspergillus infection.

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THE INDICATIONS FOR SURGICAL MANAGEMENT OF CHRONIC EAR DISEASE

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THE purpose of this presentation is to review briefly the present day indications for the surgical management of chronic ear disease.

Our knowledge of the surgical management of ear disease dates from the beginning of recorded medical writings. Galen[7] in 200 A.D. established the principle of drainage and removal of carious bone in ear infections. This principle of eradication of infection in ear disease is as true today as it was two thousand years ago.

Petit[20] in 1700 performed the first successful mastoid operation. He stated, "After the compact layer of mastoid bone had been taken away with a gouge and mallet, a purulent collection was drained." Thus, some seventeen hundred years later the Galen principle has been put into practice.

Beginning in 1815 many famous persons in the history of otology made their contributions to our present knowledge. These include Wilde,[27] Toynbee,[26] Eustachius,[6] Huschke,[11,12] Bezold,[1] Shrapnell,[23] and Henle,[9] to name but a few.

From 1870 to the turn of this century was an exciting period in ear surgery. At this time Sexton,[22] and Kessel[14] introduced the principle of removing the eardrum and ossicles to further eradicate the evils of ear infection. As a consequence, Stach[25] in 1889 introduced the radical mastoid operation.

The first reference expressing concern about hearing conservation in the surgical management of ear disease was made by Heath[8] in 1904. He advised that no ear be destroyed without full knowledge of the conditions present.

Bondy[3] at this time stated that infection in patients with intact ossicles and a perforation in Shrapnell's membrane could be successfully eradicated without disturbing the hearing. Thus the modified radical mastoid operation, with emphasis on hearing conservation, was born.

At the turn of this century it was recognized that eradication of infection was the primary objective of ear surgery in chronic ear disease. It was also recognized that under certain favorable conditions infection could be satisfactorily removed without altering the pre-existing hearing level.

The brilliant work of Holmgren,[10] Sourdille,[24] and Lempert[15] awakened otologists to the realization that hearing under certain conditions could be restored by surgical means. This development cleared the confusion that had previously existed between hearing loss due to otosclerosis and hearing loss due

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to chronic ear disease. The spectacular results obtained through surgical intervention in cases of otosclerotic deafness made all other otologic surgeons appreciate the priceless value of good hearing.

During these years the vast field of plastic and reconstructive surgery was developing. The principles of skin grafting were being defined by such pioneers as Wolfe,[28] Blair,[2] Padgett,[17,18,19] and Davis.[4] The advent of chemotherapeutic and antibiotic drugs allowed these basic principles of tissue transplantation to be applied more successfully.

In this era, the field of audiology was conceived and a better understanding of the physiology of hearing was developed. It was only logical that this background would ultimately lead someone to recognize and apply these basic principles to the concept of restoration of hearing through reconstruction of the middle ear previously damaged by injury or disease.

To Zöllner[32] and Wullstein[30] goes the credit for successfully applying these basic principles to middle ear surgery. Thus the operations of myringoplasty and tympanoplasty are now available to the otologic surgeon.

The passing parade of history has seen our concepts change from removal of infection without concern for hearing to the removal of infection with conservation of hearing and now to the removal of infection with restoration of hearing in chronic ear disease. If the procedures of myringoplasty and tympanoplasty are to succeed, we must, however, always adhere strictly to the basic Galen principle of removal of infection.

What, then, are the indications for myringoplasty and tympanoplasty, modified radical and radical mastoidectomy? What are the surgical principles involved, and what can you tell your patients regarding the results on hearing that can be anticipated from these procedures?

MYRINGOPLASTY

Myringoplasty denotes surgical repair of the perforated eardrum. It is indicated when the only defect is a perforated eardrum. For the operation to be successful, the ear spaces must be free from infection, the ossicular chain intact, and both windows and the eustachian tube functioning normally. How can we decide preoperatively if these criteria are met?

History

The patient's chief complaint is hearing loss. The ear has usually been dry for many months, or years. If an infection develops following an upper respiratory infection or swimming, it is usually of brief duration and spontaneously subsides with or without therapy.

Examination

Examination (fig. 1) reveals a dry central perforation in the lower two thirds of the tympanic membrane with no evidence of infection.

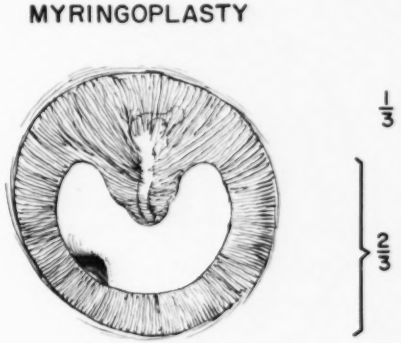

FIG. 1—Dry central perforation in lower two thirds of tympanic membrane.

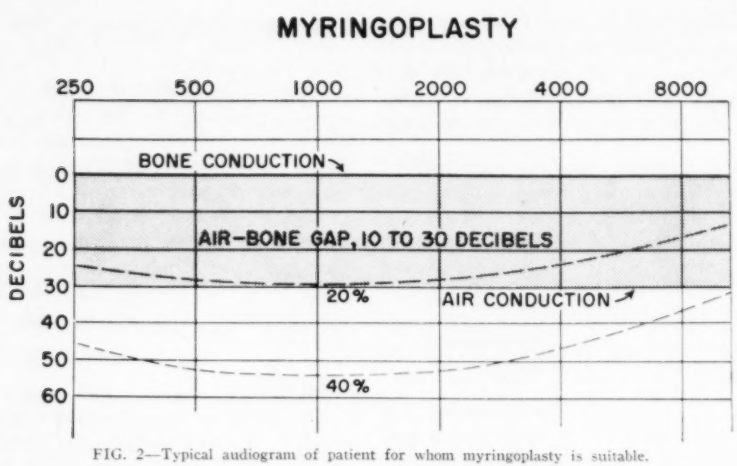

FIG. 2—Typical audiogram of patient for whom myringoplasty is suitable.

As a rule when the ossicular chain is intact, audiometric studies (fig. 2) reveal a conductive hearing loss with a bone-air gap of from 10 to 25 decibels.

Ossicular continuity can be determined by one of two methods. If the perforation is small, a paper patch (fig. 3) is placed over the opening. This procedure will improve the hearing if the ossicular chain is intact.

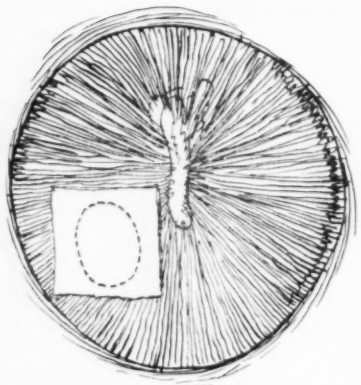

FIG. 3—Ossicular continuity determined by paper patch method.

If the perforation is large, an acoustic probe can be placed on the promontory and then on the malleus (fig. 4). The tone is heard louder on the malleus if the chain is intact.

Surgical Technique

Closure of small perforations may be obtained by cauterization and patching, as recommended by Linn,[16] Derlacki,[5] Wright,[29] Juers,[13] and others. If this method is not successful, a myringoplasty may then be performed. In this procedure a skin graft (fig. 5) is applied to the denuded surfaces of the tympanic membrane remnant through a trans-ear canal approach.

End Results

In 70 to 80 per cent of cases of perforated eardrum treated by myringoplasty the skin graft will take and the hearing will be improved to the bone conduction level. Closure of the preoperative bone-air gap is obtained.

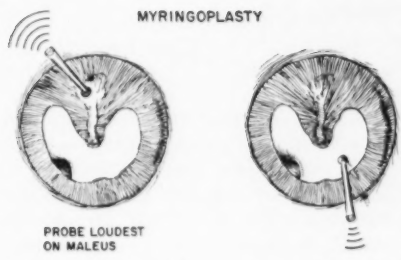

FIG. 4—Ossicular continuity determined by the acoustic probe method.

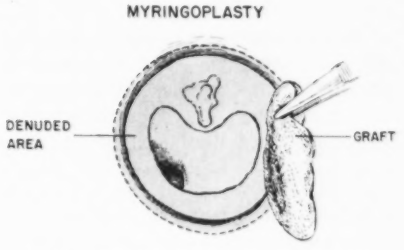

FIG. 5—Applying skin graft to raw surfaces.

Objective

The objective of myringoplasty is to improve the hearing and seal the ear.

TYMPANOPLASTY

Tympanoplasty denotes surgical reconstruction of the tympanic cavity to remove diseased tissue and improve hearing. To be successful, all diseased tissue must be eradicated, adequate cochlear reserve must be present and the sound conducting apparatus must be properly reconstructed.

History

In this type of case the patient complains of hearing loss with or without ear drainage.

Examination

The findings on examination vary considerably. The perforation may be small or large, and it may be in any location. There may or may not be evidence of active ear disease. The most common finding (fig. 6) is a large perforation, often with evidence of cholesteatoma, granulation tissue and purulent discharge.

If the stapes head and crura can be visualized and the cochlear function is normal, the hearing can be improved to the 15 decibel level.

If, on visualization, the stapes head and crura are absent (fig. 7) and the cochlear function is normal, the hearing can be improved, but only to the 25 or 30 decibel level.

If the stapes cannot be visualized, one cannot determine preoperatively the possible degree of hearing improvement.

Audiometric studies on these patients reveal a bone-air gap that varies from 30 to 50 decibels (fig. 8).

COLUMELLAR TYMPANOPLASTY

DRY OR CHOLESTEATOMA AND GRANULATION TISSUE

FIG. 6—Large perforation with intact stapes and evidence of active disease.

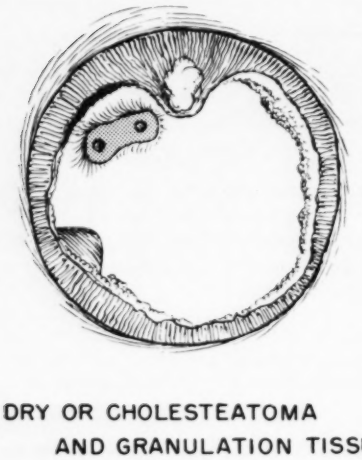

FIG. 7—Large perforation, stapes head and crura absent, with evidence of active disease.

Roentgenographic studies are essential in this group of patients to establish the extent of the bone destruction and to determine the function of the eustachian tube.

Surgical Principles

There are two basic types of tympanoplasty.

A columella-type tympanoplasty (fig. 9) is created when a skin graft is placed from the annulus over the head of the stapes. A vibrating surface is established that transmits the sound through the stapes. In patients with normal cochlear function, this type of tympanoplasty may improve the hearing to the 15 decibel level.

An oval-window tympanoplasty (fig. 10) is created when a skin graft is placed from the annulus to the edge of the inferior margin of the oval window. This establishes an air-containing hypotympanum which protects the round window from sound and yet allows the sound to enter directly through the footplate. In patients with normal cochlear function, this type of tympanoplasty may improve the hearing to a 25 decibel or 30 decibel level.

The most important objective of surgical intervention in chronic ear disease is to eradicate infection. The surgeon must never leave infected tissue in the interest of conserving structures vital

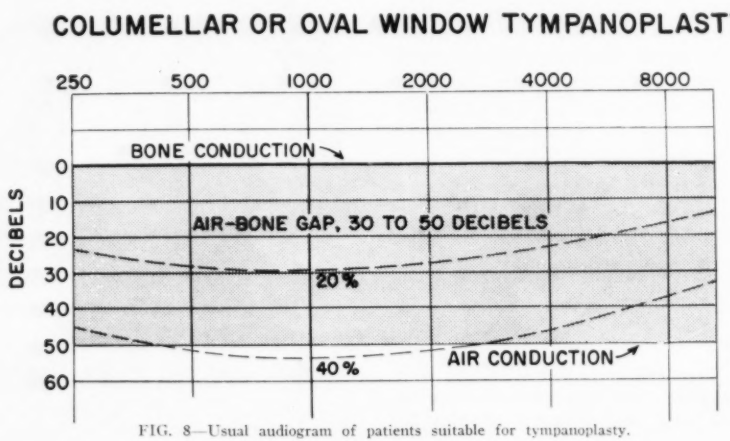

FIG. 8—Usual audiogram of patients suitable for tympanoplasty.

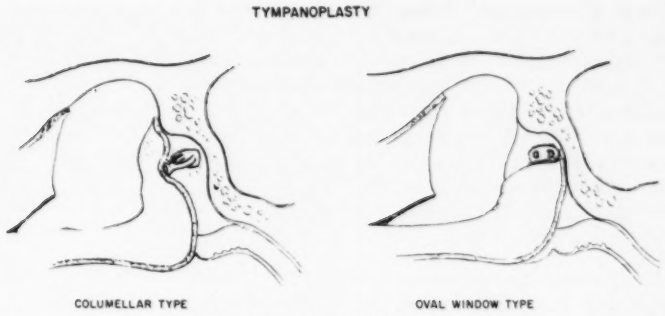

FIG. 9—Canal view of columella-type tympanoplasty.

to hearing. After all infected tissue has been removed, the surgeon may then turn his attention to the hearing problem.

In tympanoplasty it is often necessary to remove infected tissue from the promontory, round window, hypotympanum and tubal areas. In the healing process the raw surface thus created frequently forms adhesions to the skin graft, thereby obliterating the necessary air-containing hypotympanum. If this occurs the hearing improvement aspect of the tympanoplasty will fail. Several techniques have been advocated to prevent this complication. These are the musculoplasty of Rambo[21] and the various methods publicized by Zöllner[33] and Wullstein.[31]

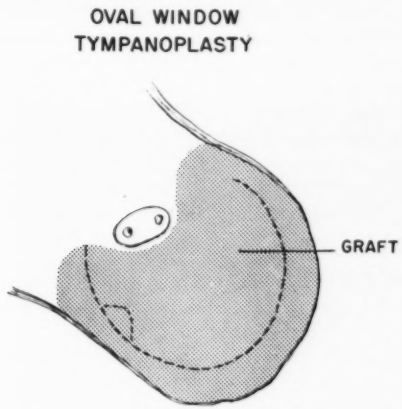

FIG. 10—Canal view of oval window-type tympanoplasty.

During the past two years we have found polyethylene tubing and sheath material helpful in preventing this complication (fig. 11).

A no. 90 polyethylene tube is gently heated and preformed to fit from the eustachian tube to the round window. A skin graft is then placed over the tubing in the conventional manner, leaving the polyethylene tube permanently in the hypotympanum. If considerable tissue has been removed from the tubal orifice,

FIG. 11—Use of polyethylene tubing in the hypotympanum.

a no. 10 inner tube is placed through the eustachian tube to the nasal cavity. This allows the hypotympanum to be readily inflated. The no. 10 polyethylene inner tube is allowed to remain in the eustachian tube approximately two weeks and then is removed through the nose. We have found this technique valuable also in improving hearing in patients with healed radical mastoid cavities.

In our experience, polyethylene tubing implanted in the middle ear in numerous cases during the past two years has not initiated any local reaction. The surgeon, however, should be sure he is using polyethylene tubing that has been marked *"animal tested"* by the manufacturer.

End Results

The ideal end result of a columella-type tympanoplasty is the improvement of the hearing level to a 15 decibel bone-air gap. The oval-window type tympanoplasty will improve the hearing level to a 25 or 30 decibel bone-air gap.

Objective

The objective of tympanoplasty is to *eradicate infection* and *improve the hearing.*

MODIFIED RADICAL AND RADICAL MASTOIDECTOMIES

In view of this discussion, what are the indications for the modified radical and the radical mastoid operations?

The modified radical operation is performed to eradicate infection in the epitympanic and mastoid regions without disturbing the patient's pre-existing serviceable hearing.

The radical mastoid operation is performed solely for the eradication of infection in cases in which a hearing improvement by tympanic reconstruction would not be of benefit to the patient.

Without this knowledge and without a proper diagnostic and surgical armamentarium, successful results cannot be consistently attained in the surgical management of chronic ear disease.

RADIOLOGIC ASPECTS OF CHRONIC EAR SURGERY

The recent introduction of tympanic cavity reconstruction for the restoration of serviceable hearing has afforded the radiologist a new opportunity to provide information useful in the preoperative evaluation of candidates for temporal bone surgery.

The surgeon should not be satisfied with reports based upon films taken only in the Towne and Law positions, which dwell upon the anatomy of the mastoid process and pathologic changes within its pneumatic system. In the Towne projection, the area of the attic and aditus is blurred because of its distance from the film, and in the Law projection, it is obscured entirely (fig. 12). The operator should insist upon accurate information concerning the extent and activity of disease in the attic and aditus, and furthermore, he is entitled to some information about the condition of the ossicular chain.

The belief is prevalent in the radiologic literature that the epitympanic space and aditus cannot be repetitively demonstrated roentgenographically. In films taken in the Mayer (fig. 13) and Owen (fig. 14) positions, however, these areas are clearly visualized. Although the incudostapedial joint cannot as yet be reliably identified, the malleus and incus should be seen if they are present (fig. 15), and there is reason to believe that with properly constructed planigraphic equipment, the stapes and window areas will become radiologically visible.

By the use of the Mayer and Owen positions an experienced radiologist

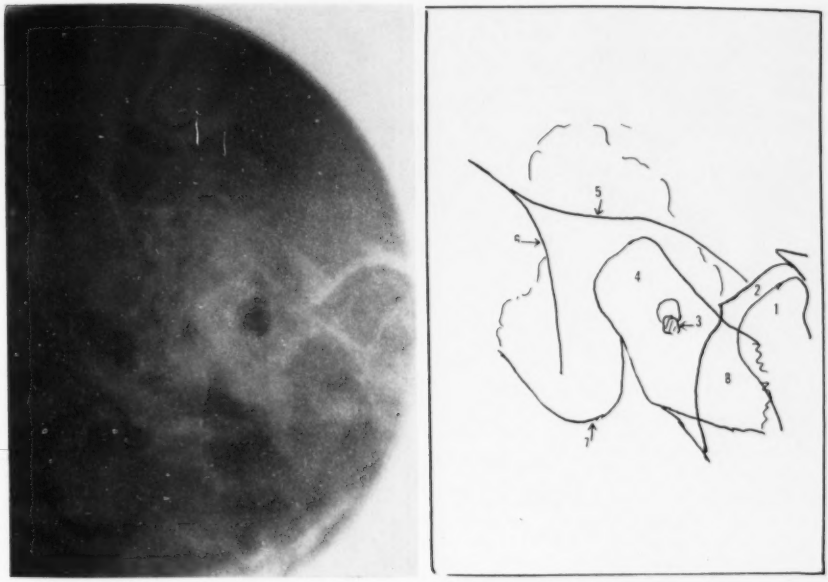

FIG. 12—Normal mastoid in Law position with line drawing.

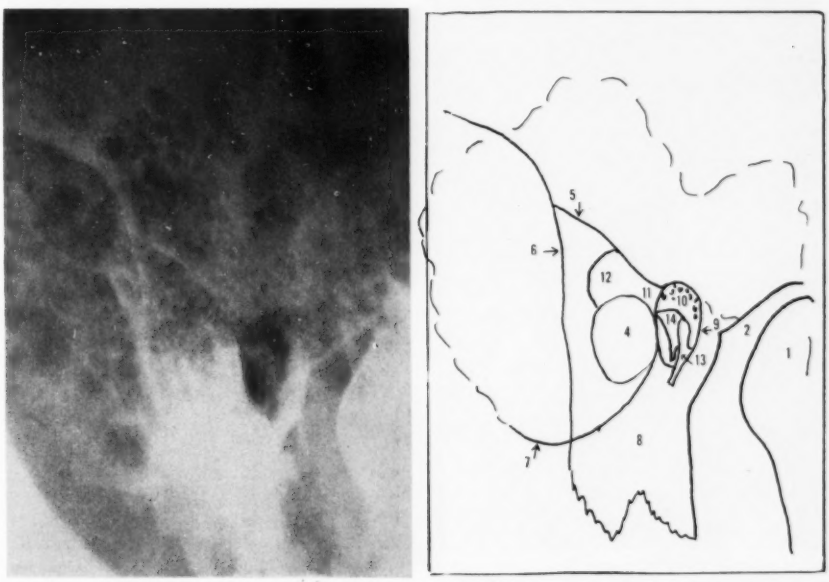

FIG. 13—Normal mastoid in Mayer position with line drawing.

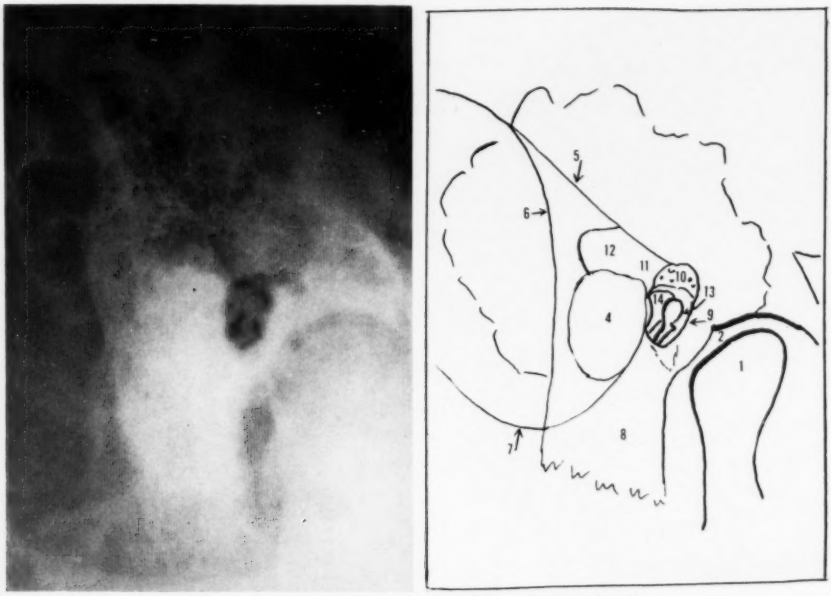

FIG. 14—Normal mastoid in Owen position with line drawing.

FIG. 15—The arrow indicates a modified radical cavity. The malleus is present in the tympanic cavity, but the incus was dislocated at a previous operation.

FIG. 16—Owen position showing normal malleus and incus in the tympanic cavity. The arrows show area of bone destruction in the attic and aditus.

FIG. 17—Mayer position showing normal malleus and incus in the tympanic cavity. Arrows indicate a small, clean-cut area of bone destruction in the attic: a typical attic cholesteatoma.

FIG. 18—Owen position showing an attic cholesteatoma cavity outlined by the arrows. The malleus is visible in the tympanic cavity, but the incus has been eroded by the disease process.

FIG. 19—Stenvers position showing normal functioning eustachian tube (arrow on right). The three arrows on the left indicate the course of the facial nerve.

should be able to demonstrate the presence and extent of a great majority of small cholesteatomas, whereas with the average mastoid series, cholesteatomas limited to the attic and aditus are consistently missed.

The surgeon can obtain information concerning the status of the eustachian tube if reconstructive surgery is contemplated. On occasion, abnormalities can be demonstrated on the plain film, especially on the base view of the skull. The ability of the eustachian tube to clear the tympanic cavity can be reliably determined radiologically, both by visualizing the tube filled with contrast material (fig. 19), and by determining the emptying time of the middle ear after a radiopaque fluid has been instilled into it.

Although the otologist can, by inflation, evaluate the patency of the tube to the passage of air from the nasopharynx to the middle ear, he cannot tell whether the tube will clear the tympanic cavity of secretions, nor can he tell whether an obstruction is present, and at which portion of the tube it is located. Patency of the tube to inflation and the ability of the tube to clear the secretions from the middle ear are not synonymous.

If the eustachian tube is not visualized, and the tympanic cavity does not clear (fig. 20), the hypotympanum and tubal orifice must be explored in order to remove the disease process completely and to ensure postoperative tubal patency.

On the other hand, when the tube is clearly visible (fig. 21) and when tympanic cavity clearance is complete (fig. 22), surgical exploration of the hypotympanum can be avoided.

It must be re-emphasized that a mastoid series for the preoperative evaluation of chronic otitis media is totally inadequate if films made in the Owen and Mayer positions are not included. Only in these projections can the malleus and incus, attic and aditus be adequately visualized.

By the addition of tympanic cavity clearance studies in cases in which re-

FIG. 20—Stenvers position showing tympanic cavity filled with contrast material, but obstruction to tubal clearance.

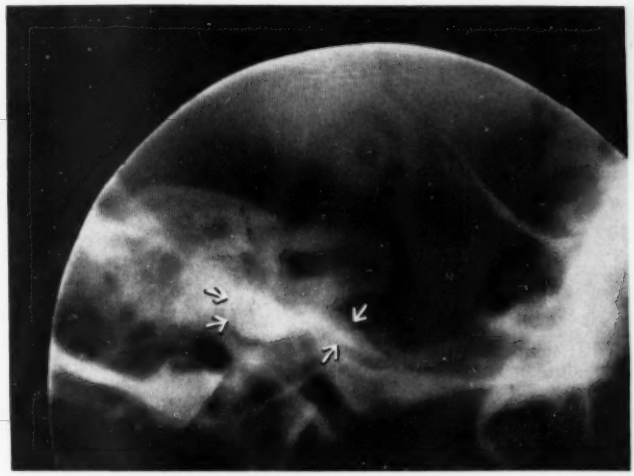

FIG. 21—Stenvers position. Arrows on right indicate normal eustachian tube; those on left indicate the filled tympanic cavity.

FIG. 22—Same patient as in previous illustration. Arrows indicate cleared tympanic cavity.

construction of the tympanic cavity is anticipated, the ability or inability of the eustachian tube to clear the middle ear cavity can be uniformly predicted.

SUMMARY

The object of cancer surgery is to eradicate the tumor and, if possible, to achieve a satisfactory cosmetic result. To leave a little tumor defeats both objectives.

The object of surgery for chronic ear infection is to eradicate the disease and, if possible, to achieve a satisfactory hearing improvement. To leave a little disease again defeats both objectives.

Today the otologists have four surgical procedures available for the management of chronic ear disease.

Myringoplasty is used to improve the hearing and seal the middle ear.

Tympanoplasty is used to eradicate disease and improve the hearing.

The modified radical mastoidectomy is used to eradicate disease and conserve the pre-existing serviceable hearing.

The radical mastoidectomy is used to eradicate disease.

Each of the above four procedures has its definite place in modern otologic surgery. It is apparent from this discussion that to achieve success in the surgical management of chronic ear disease, one must clearly understand the basic concept of middle ear physiology; must be in a position to thoroughly evaluate each ear problem, both preoperatively and at the time of operation; must be aware of the indications, contraindications and complications of this surgery; must be thoroughly familiar with the surgical anatomy of the ear, and must have available the proper diagnostic and surgical armamentarium.

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FACTORS IN REDUCING OCULAR TENSION PRIOR TO INTRAOCULAR SURGERY

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WITH refinements of ocular surgical techniques, increasing attention is being directed toward the quality of ocular anesthesia. A measure of effective general anesthesia in intraocular surgery is the intraocular pressure; in local anesthesia both intraocular pressure and ocular motility serve as criteria for effective anesthesia. These factors have attracted increasing interest and study in recent years.

Thiopental sodium (Pentothal Sodium) has become a most popular general anesthetic agent in ophthalmology. Its use in our hospital has been reported by Thomas and McCaslin[10] and by Linn.[6] Recently de Roetth and Schwartz[3] reported that the reduction of intraocular pressure due to intravenous thiopental sodium was related to an improvement of the facility of aqueous outflow in patients with chronic simple glaucoma.

The current techniques of local anesthesia in ophthalmology have been excellently outlined by Atkinson.[1] Retrobulbar injection of local anesthetics has received considerable attention for its effect on intraocular pressure and ocular motility since its introduction by Pooley[8] in 1914. Gifford[4] reported important observations on the effect of retrobulbar injection of procaine hydrochloride on vitreous pressure as well as intraocular pressure and motility. Snydacker, Deutsch and Bayard[9] compared retrobulbar injections of anesthetic agents, epinephrine and hyaluronidase. De Roetth and Carroll[2] reported the effect of retrobulbar injection on aqueous humor dynamics.

The marked fall in intraocular pressure after digital pressure has been carefully analyzed by Kirsch and Steinman.[5]

Lowenstein[7] has reported the significance of central nervous system influence on intraocular pressure. Other studies of von Sallmann and Lowenstein[11] and de Roetth and Schwartz[3] seem to substantiate the importance of a central nervous system control over ocular tension.

The purpose of this communication is to compare and evaluate some of the factors resulting in a reduction of intraocular pressure during general and local anesthesia in ophthalmic surgery.

MATERIALS AND METHODS

A control group consisted of one hundred eyes on which cataract operations were performed under local anesthesia. In most instances the preoperative sedation consisted of 200 mg. of

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Sodium Nembutal, 0.01 grain of atropine sulfate, and 25 mg. of chlorpromazine administered intramuscularly one hour before the operation. The pupil of the eye to be operated on was dilated with six drops of phenylephrine hydrochloride given at ten minute intervals preoperatively. The local anesthetic agent used for the retrobulbar injection and Van Lint lid block was 1.5 per cent Monocaine (2-isobutylaminoethyl paraminobenzoate) hydrochloride with five turbidity units of hyaluronidase per cubic centimeter and epinephrine in a 1:100,000 dilution. Monocaine has been used satisfactorily for local anesthesia in our operating room for several years; it was utilized in this study because of its convenience to our routine. The ocular tension was recorded on admission to the hospital, after preoperative sedation, four minutes after retrobulbar injection of 1.5 cc. of Monocaine, and following five minutes of digital pressure. The degree of motility was then measured in the field of activity of the four recti muscles, grading the motility of the muscle from zero for no motility, then in increasing units of one to four for a full range of motility. Initially these measurements were made separately by two observers and compared until uniform observations were noted.

In all cases the retrobulbar injection was given with a 35 mm. 26-gauge blunted needle within the muscle cone immediately behind the globe. Digital pressure was applied to the eye with the lids closed through a folded four inch square gauze pad. The first three fingers of the right hand were placed on the pad, and the first three fingers of the left hand placed on the fingers of the right hand. Firm pressure was applied to the eye for exactly five minutes.

The reduction of intraocular pressure was determined before and immediately after retrobulbar injection, and at one minute intervals for ten minutes in nine eyes.

A second group consisted of forty-six eyes in thirty-two patients undergoing ocular surgery under intravenous thiopental sodium anesthesia. The ocular tension was obtained on admission to the hospital, just prior to induction, and following induction when a suitable plane of anesthesia had been established. Ten eyes of this group were then subjected to retrobulbar injection of 1.5 cc. of Monocaine after general anesthesia had been established; four minutes after the retrobulbar injection, the ocular tension was recorded.

A third group consisted of fifteen eyes in patients with chronic simple glaucoma not surgically treated. These studies were made in the clinic without the presedation given the control group. The ocular tension was obtained before retrobulbar injection of 1.5 cc. of Monocaine; four minutes after the retrobulbar injection; and after five minutes of digital pressure had been applied to the globe. Tonographic measurements were obtained on these same eyes at another visit, with the patient abstaining from all medication for a forty-eight hour period.

RESULTS

A. Local Anesthetic—Control Series

Table I shows a definite though slight reduction of intraocular pressure following preoperative sedation. This reduction of intraocular pressure averaged 1.81 mm. Hg in the surgically treated eye, and 3.42 mm. Hg in the fellow eye. This discrepancy might be explained by the preoperative dilation of the pupil in the surgically treated eye.

Retrobulbar injection caused a further decrease of 4.19 mm. Hg, or a 22 per cent reduction of pressure (fig. 1). Digital pressure produced the most

TABLE I

THE AVERAGE OCULAR TENSION OF BOTH EYES, AND THE FINAL MOTILITY OF THE EYES SURGICALLY TREATED IN ONE HUNDRED CASES OF THE CONTROL SERIES

ADMISSION TENSION		TENSION AFTER SEDATION		AFTER RETROBULBAR		TENSION AFTER DIGITAL PRESSURE		MUSCLE ACTIVITY				
Operated Eye	Other Eye	Operated Eye	Other Eye	Operated Eye	Other Eye	Operated Eye	Other Eye	Superior Rectus	Medial Rectus	Inferior Rectus	Lateral Rectus	Total
18.95	19.25	17.14	15.83	12.95	14.51	7.45	14.42	0.39	0.85	0.80	0.82	2.86

significant fall in intraocular pressure, 5.5 mm. Hg, or a 30 per cent reduction. The total percentage reduction of intraocular pressure due to presedation, retrobulbar injection and digital pressure was 61. The fall after presedation and retrobulbar injection alone was 31 per cent. Half the total fall was due to digital pressure alone. Total average akinesia (fig. 2) for one hundred cases was 2.86 of a possible 16, or an average 83.75 per cent successful motor block. There were thirty-five eyes with a complete motor block. The average final ocular tension of these eyes was 6.45 mm. Hg. Nineteen eyes had a total motility of six or over, and an average intraocular pressure of 8.29 mm. There is a definite relationship between the degree of motor akinesia and fall in intraocular pressure (fig. 3).

A significantly greater akinesia of the superior rectus muscle was obtained. The medial, inferior, and lateral rectus muscles were about equally affected.

The optimum reduction of intraocular pressure following the retrobulbar injection occurs within five minutes after injection (fig. 4). There was a trend

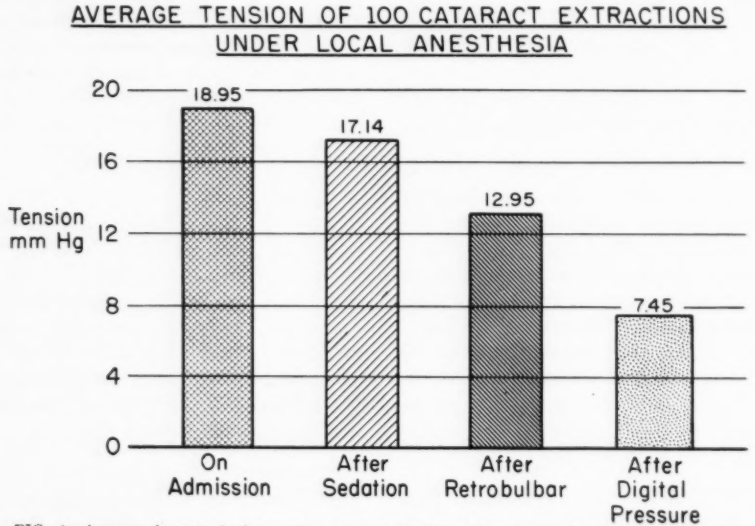

FIG. 1—Average decrease in intraocular pressure in the control series of patients operated upon under local anesthesia.

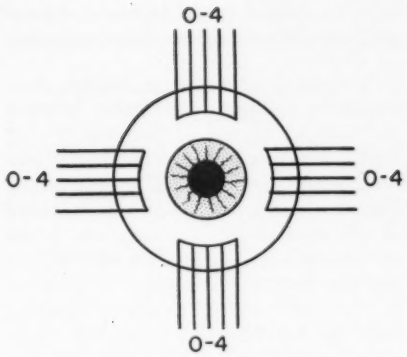

FIG. 2—Diagrammatic representation of scheme for determining residual motility and results in one hundred cases.

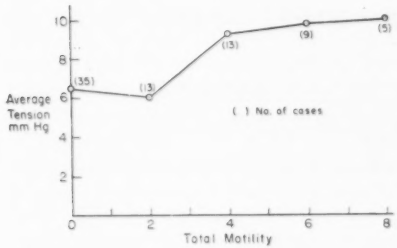

FIG. 3—A curve of total residual motility plotted against the ocular tension shows a direct relationship.

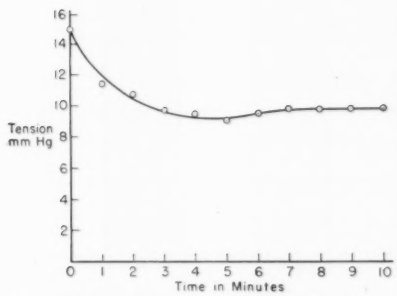

FIG. 4—A curve plotting the ocular tension decline after retrobulbar injection shows an optimum fall at about five minutes.

toward an increase in pressure at ten minutes.

B. General Anesthesia

In the group of thirty-two patients subjected to general anesthesia, the following facts were noted:

The admission pressure and post-sedation pressure agree favorably with the finding of the control series (fig. 5). Intravenous thiopental sodium caused a further reduction of 3.85 mm. Hg. The total decrease in intraocular pressure after induction was 30 per cent. This fall in pressure to 13.52 mm. Hg after induction was only slightly less than the 12.95 mm. Hg pressure after retrobulbar injection in the control series, but exceedingly more than the control series after retrobulbar and digital pressure.

In six cases of the thiopental sodium group there was no decrease or an actual increase in intraocular pressure. In no instance did the pressure fall to zero. In the control series subjected to local anesthesia, no patient failed to have a lower pressure after digital pressure and retrobulbar injection, and one third, or thirty-five patients, had a final pressure of zero. However, retrobulbar injection after induction with thiopental sodium caused only a slight further re-

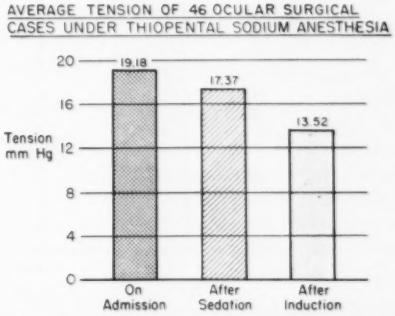

FIG. 5—Average intraocular pressure decrease in patients under thiopental sodium anesthesia.

duction of intraocular pressure of 1.46 mm. Hg (fig. 6).

C. Chronic Simple Glaucoma Cases

The initial pressure in this group, as shown in Table II, is considerably higher than the control group, as would be expected. Retrobulbar injection reduced the intraocular pressure 8.73 mm. Hg, or 32 per cent, which is similar to the total 31 per cent reduction in the control group after retrobulbar digital pressure further reduced the intraocular pressure by 22 per cent for a total fall of 54 per cent. The total reduction compares favorably to the 61 per cent of the control group. This group showed little difference in the akinesia resulting from retrobulbar injection as obtained in the medial, inferior and lateral rectus, but a substantial difference in the superior rectus, which was most markedly affected. The control group similarly showed greatest akinesia of the superior rectus.

Initially it appeared as though there might be a direct relationship between the amount of fall of pressure due to digital pressure and the facility of outflow, which averaged 0.12 in this group. No such relationship was substantiated in the analysis of our complete group of fifteen eyes, as is demonstrated by the distribution curve (fig. 7). Similarly, the reduction of pressure resulting from the retrobulbar injection was unrelated to the facility of outflow.

DISCUSSION

The group of chronic simple glaucoma cases was included in this study in an effort to explain the fall of ocular tension following digital pressure. Past experience with electric tonography suggests a logical explanation for any fall

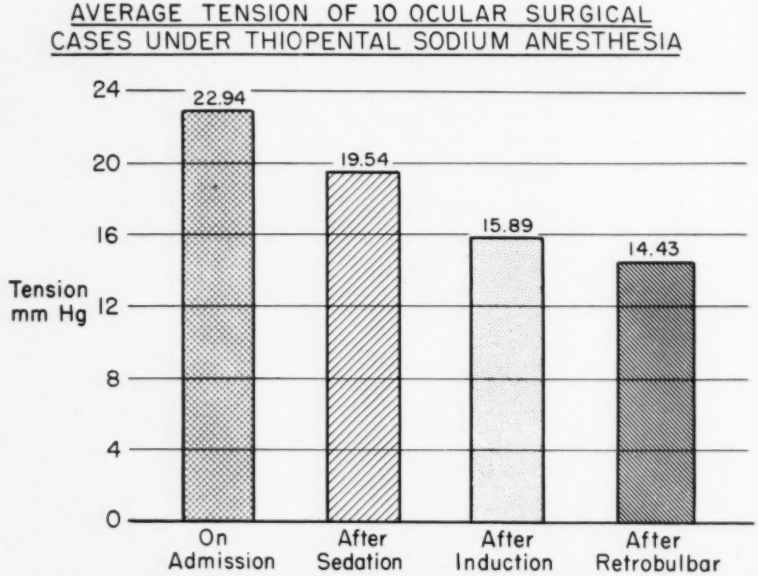

FIG. 6—Average intraocular pressure decrease in ten patients under thiopental sodium and also subjected to retrobulbar injection of Monocaine.

TABLE II

AVERAGE DECREASE OF INTRAOCULAR PRESSURE IN TWENTY-NINE EYES WITH CHRONIC SIMPLE GLAUCOMA

INITIAL TENSION		TENSION AFTER RETROBULBAR		TENSION AFTER DIGITAL PRESSURE		MUSCLE ACTIVITY				
Injected Eye	Other Eye	Injected Eye	Other Eye	Injected Eye	Other Eye	Superior Rectus	Medial Rectus	Inferior Rectus	Lateral Rectus	Total
27.37	25.43	18.64	25.59	12.55	24.28	0.24	1.62	1.00	1.20	4.06

of intraocular pressure after a sustained pressure applied to the globe for five minutes. It was initially assumed that the fall of intraocular pressure after digital pressure was due to expression of aqueous, as in tonography, and would, therefore, be diminished in cases with decreased outflow facility. A distribution curve of the chronic simple glaucoma cases did not substantiate this view. We feel that other changes such as a decrease in choroidal vascular volume must be sufficiently greater than aqueous loss during digital pressure, thus obscuring any relationship to facility of outflow. Obviously one must select for such a study cases of chronic simple glaucoma not surgically treated. Logically, such patients are more easily controlled and will have a more normal facility of outflow, as demonstrated by the average outflow of 0.12 in the studied group. It would be of interest to repeat this study on such patients with a facility of outflow more near zero.

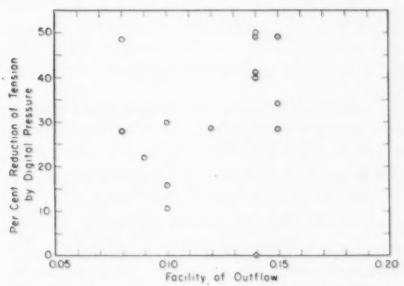

FIG. 7—Distribution curve of relationship of percentage reduction of ocular tension by digital pressure in fifteen cases of chronic simple glaucoma.

We feel the following factors are probably responsible for the over-all fall in intraocular pressure according to our study:

The initial fall after preoperative sedation is probably central in origin and in keeping with Lowenstein's hypothesis[7] of diencephalic influence on intraocular pressure. The administration of intravenous thiopental sodium further augments this suppression of the central nervous system. This may be effected, as de Roetth and Schwartz[3] have suggested, by some alteration of the facility of aqueous outflow as mediated by higher nerve centers combined with a partial relaxation of the extraocular musculature. Retrobulbar injection of Monocaine, as employed in local anesthesia, causes a slightly greater fall of intraocular pressure than thiopental sodium anesthesia, probably because a suppression of aqueous production follows a blocking action of the ciliary nerves, as suggested by de Roetth and Carroll,[2] in addition to relaxing the extraocular muscles. Digital pressure after the retrobulbar injection achieves a more profound block of the extraocular muscles as well as an increase in the effectiveness of the Van Lint block of the orbicularis muscle.

The effectiveness of local anesthesia in this study is emphasized by the fact

that one third of the control cases had a total motor block of the four rectus muscles. Such a total block gives the operator a greater sense of security, knowing that the decrease of intraocular pressure is proportionate to the degree of akinesia. In this study the retrobulbar injection was limited to 1.5 cc. If akinesia is insufficient following digital pressure, further administration of the anesthetic agent can be readily performed without contraindication to achieve an optimum effect.

There are those who feel that once the anterior chamber has been opened in intraocular surgery, the intraocular pressure falls to zero and that, therefore, prior measures to reduce this pressure are of little importance, except in those cases with the abnormally elevated pressure preoperatively, as in acute glaucoma.

We feel that the lens zonular diaphragm contains and maintains the intravitreal pressure even after the anterior chamber has been opened, as pointed out by Gifford,[4] and this intravitreal pressure may be increased. The intraocular pressure that remains following induction with thiopental sodium, and the intraocular pressure after digital pressure in our control series probably equal all or part of the intravitreal pressure after the anterior chamber has been entered. Ideally, this residual or intravitreal pressure should be as near zero as possible prior to opening the anterior chamber.

CONCLUSIONS

From this study one may anticipate a 61 per cent average decrease in intraocular pressure following presedation, retrobulbar injection, and digital pressure in local ocular anesthesia. Of this total decrease, presedation accounts for 9 per cent of the fall, retrobulbar injection for 22 per cent, and digital pressure for 30 per cent. Consequently, half of the total fall is due to digital pressure.

General anesthesia with thiopental sodium results in a total reduction of intraocular pressure of 30 per cent.

The decrease in intraocular pressure in eyes with chronic simple glaucoma is proportionate to the fall in normal eyes and was not shown to be related to the facility of aqueous outflow.

The fall in intraocular pressure in local anesthesia is proportionate to and reflected by the degree of akinesia achieved.

SUMMARY

1. The decrease in intraocular pressure in one hundred routine cataract operations following presedation, retrobulbar injection of Monocaine, and five minutes of digital pressure was compared to that in forty-nine ophthalmic patients operated upon under intravenous thiopental sodium, and in fifteen eyes with chronic simple glaucoma subject to retrobulbar injection of Monocaine and five minutes of digital pressure.

2. The degree of akinesia was compared to the decrease in intraocular pressure in local anesthesia.

3. It was concluded that local anesthesia administered as outlined produced the greatest and most reliable reduction of intraocular pressure.

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DISCUSSION

HAROLD GIFFORD, M.D., Omaha: I would like to thank the authors, Dr. Everett, Dr. Vey and Dr. Veenis, for the opportunity to discuss their paper. These authors have shown that with the retrobulbar injections of a local anesthetic, in sedated patients, there is a fall of intraocular pressure amounting to approximately 30 per cent. It is interesting that this figure is almost identical with the 33 per cent fall found by me in 1948. This must represent the dynamic part of the intraocular tension, which is controlled by the ciliary nerves.

They have also tried to correlate this fall in tension with the motor activity of the extraocular muscles. They have shown that when the muscles are more effectively blocked, there is a greater fall in intraocular tension. I held this same view in 1948, but I feel now that the extraocular muscles probably have only a very small part to play in the control of intraocular tension, but that they still may be a large factor in producing positive vitreous pressure after the globe has been opened.

In my study and in the work of Dr. Snydacker in 1954, there were cases in which the paralysis was complete and yet the tension showed no fall, but there were also cases in which there was a large fall in pressure in the presence of a poor motor block. This would indicate that there is not a direct correlation between motor paralysis and fall in intraocular tension. The fall in pressure, I believe, is primarily due to the blocking of the ciliary nerves, probably parasympathetic. This block reduces the inflow of aqueous.

The most interesting finding was that when the inflow of aqueous had been blocked by the retrobulbar injection, it was possible to decrease the intraocular pressure by another 30 per cent by mechanical means. It seems to me that this is probably the most important factor in producing the negative intravitreal or vitreous pressure, as I call it. This is the static or base pressure, and it is the reduction of this vitreous pressure that prevents vitreous loss. Negative vitreous pressure makes it more difficult for the surgeon or the patient to squeeze vitreous out of the eye. This is an important contribution to cataract surgery and should at least be evaluated by all of us. I have been trying for ten years to reduce the number of cases of positive pressure. This digital pressure, I am sure, is a simple procedure that will help produce negative vitreous pressure in more cases, and because of this less vitreous loss.

I should like to ask Dr. Everett for his opinion on how this reduction in the static pressure is produced. I believe that simple mechanical stretching of the scleral fibers could produce the effect. The urologists have stated a law that "an overdistended bladder will not empty itself." This simply means that when the elasticity of the bladder has been exceeded, the pressure falls; until the elasticity of the bladder has regained its former state, the pressure will continue to fall and the bladder will not empty itself. Digital pressure on the globe may simply strech the scleral fibers sufficiently so that the elasticity is reduced and the intraocular pressure falls. The variations in the amount of this fall have not been correlated in different age groups, but I believe the results would be interesting. It has been my experience that there is a greater tendency for positive pressure in young pa-

tients, in whom the sclera has a different elasticity, than in elderly patients, in whom the sclera appears to be more rigid. In my series of cases there were more collapsing corneas and more negative pressure in the older group.

I would also like to ask Dr. Everett if he has seen any change in the depth of the chamber following digital pressure. Dr. Snydacker felt that he could not demonstrate an increasing depth of chamber following a retrobulbar injection, but many previous authors have mentioned this finding. In my cases, in which the pupil was contracted with pilocarpine, there was a definite increase in the depth of the chamber, which, in some cases, amounts to 50 per cent. I am sure this finding must be taken into consideration in any discussion of this problem. The few normal eyes on which I have used digital pressure without any previous retrobulbar block have not shown any displacement of the iris diaphragm that could be measured. There was no change in visual acuity. One aphakic eye with this hyaloid membrane in the pupillary area showed no displacement of this membrane, although the pressure dropped approximately 30 per cent. This would indicate that there had been no actual displacement of aqueous from the anterior or posterior chambers or a measurable amount of blood from the choroid. If there was a displacement of aqueous, it has been so promptly replaced from the ciliary region that there has been no actual shift in this diaphragm. The choroidal blood would also be replaced rapidly.

I am glad to know that Dr. Everett and his colleagues use a blunt needle. I have used a blunt needle since 1951 and have not had one single patient with orbital hemorrhage. I still use a long 50 mm. needle, which places the anesthetic agent further posteriorly and produces a greater blocking effect on the motor nerves.

RALPH E. KIRSCH, M.D., Miami, Fla.: I should like to congratulate Dr. Everett and his co-authors upon their excellent presentation. They have shown clearly the comparative effects upon intraocular pressure of presedation, of retrobulbar injection, of digital pressure in local anesthesia, and of thiopental sodium general anesthesia. In addition to this comparative study they have added a significant piece of evidence to our knowledge concerning the mechanism of action of these tension-lowering procedures.

Their work serves to emphasize again the great importance of digital pressure in intraocular surgery, for they have shown that half of the total fall in intraocular pressure is due to digital pressure. Since they found such a substantial decrease in intraocular pressure with thiopental sodium alone, it would be of great interest to observe the effect of combining this general anesthesia with a retrobulbar injection and digital pressure. If our goal is low intraocular pressure, this combination might well produce the most profound hypotony.

Actually, however, our ultimate goal in cataract surgery is to achieve low intravitreal pressure, but to date there is no accurate way to measure this; the best available criterion before opening the eye appears to be the concomitant total ocular hypotension. Therefore, let us strive for this maximum hypotony.

In our inquiry into the mechanism of action of the tension-lowering methods we see that several different processes are involved. Presedation with chlorpromazine causes suppression of aqueous production, shown by Constant and Becker. A similar decrease in aqueous inflow is caused by the retrobulbar injection in eyes with chronic glaucoma (de Roetth and Carroll) although the mode of action of the retrobulbar injection in normal eyes is still unknown. Thiopental sodium has been found by de Roetth and Schwartz to increase the facility of aqueous outflow.

As to the mechanism of action of digital pressure, the single most potent hypotonic force, our essayists today have reported the usual marked hypotony following digital pressure in eyes with impaired facility of outflow. They feel, therefore, that other changes such as a decrease in choroidal blood volume must be sufficiently greater than aqueous loss during digital pressure. However, aqueous outflow must be an important factor in digital pressure, for most of us have operated upon eyes with acute angle closure glaucoma and have observed often the inability to lower the tension with retrobulbar injection and digital pressure. Perhaps an explanation for the authors' finding lies in the possibility that where there is even some small outflow facility remaining, digital pressure is capable of forcing aqueous through the restricted channels. The elucidation of the mechanism of action of digital pressure is an inviting field for investigation, and we must determine whether it operates by suppression of aqueous production, by aqueous loss, by dehydration of the vitreous or lens, by reduction of the intraocular blood volume, or by a combination of these mechanisms.

I should like again to commend the authors for their work and for documenting so carefully the importance of these steps in the preparation of the surgical eye.

DR. EVERETT: I would like to thank Dr. Gifford and Dr. Kirsch for their more than generous remarks.

Our research did not elicit all the information we had hoped for, and, as Dr. Kirsch pointed out, this is an inviting field for all of us to learn more about the mechanisms responsible for the fall of intraocular pressure.

I had not entertained the idea that digital pressure may stretch the sclera. If it is a mechanism involved (and it does impress me that it could be a factor), you would think it might alter the anterior-posterior length of the eye and thereby induce a refractive change. It is true, however, that in detachment surgery marked changes in the sclera are often created with very little change in the axial length of the eye.

We did not consider the age factor in this study. It might be wise to consider age, because a change in the choroidal vascular volume might be responsible for the fall in intraocular pressure and be inversely related to the degree of the choroidal sclerosis. The observation by Dr. Gifford that the intravitreal pressure was greater in the young individuals suggests that choroidal vascular volume change was not as important as we felt.

I did not measure the depth of the anterior chamber. I make the retrobulbar injection by going just behind the posterior pole of the eye, as well as I can estimate this.

I have several roentgenograms taken by my colleague, Dr. Linn, showing a 50 mm. needle in a human subject. The roentgenogram shows the needle to be in the optic foramina. For this reason we are somewhat careful about the degree and depth to which we pass our needle, and feel safer with a 35 mm. needle. We have several cadaver heads in which you can see the retrobulbar needle in the area of the optic chiasm in the pituitary fossa.

Dr. Kirsch has asked if we would apply these principles of digital pressure to Pentothal anesthesia, and we did in a small number of cases. It was not large enough to report. As one would expect, one does see a further fall in intraocular pressure in Pentothal anesthesia when one applies digital pressure. Having just recently operated upon a patient who lost some vitreous at the operating table, I have taken a solemn vow never again to perform a cataract operation under Pentothal without utilizing digital pressure and retrobulbar injection. I plan to keep this vow.

I agree with Dr. Kirsch that the aqueous outflow must be a factor, and I believe that tonography has shown us that we must anticipate a fall in pressure if we have sustained pressure on the cornea. We were not able to show this relationship of fall in intraocular pressure to facility of outflow, but I do feel it exists.

I agree with Dr. Gifford that the muscle activity at the completion of the block is related to the fall of intraocular pressure, but the fall in pressure is not due to muscle relaxation alone. Akinesia is a guide to the effectiveness of anesthetic.

THE TREATMENT OF IRIS MELANOMA

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THE purpose of this report is to evaluate the manner in which 157 cases of melanoma of the iris have been handled, with the idea of establishing an approach to their future management. Necessarily the criteria must be based primarily on the course the cases have taken subsequent to treatment.

The material on which this report is based consists of (1) patients seen and treated at the Institute of Ophthalmology; (2) patients seen in consultation by members of the staff of the Institute of Ophthalmology but treated elsewhere (3) patients operated upon elsewhere and whose tumor specimens or sections were sent to the Pathology Department of the Institute of Ophthalmology for opinion.

From the standpoint of treatment the patients fall into the following three groups: (1) those who had excisional iridectomy (63 cases); (2) those who had enucleation (72 cases); (3) those who were observed (22 cases). Patients in the third category were those who, on the basis of clinical appearance and behavior were thought to have a probable malignant melanoma but who either refused operation or were not urged to undergo an operation for reasons described later.

Some of the patients having an enucleation were subjected to iridectomy initially. The subsequent enucleation resulted from (1) establishment cytologically of a malignant lesion too widespread for local excision when it had not been appreciated previously; (2) detection at the time of the iridectomy of a process too extensive to lend itself to local excision; and (3) presence of residual tumor not amenable to further local excision after iridectomy. The cases in these three groups have been listed as enucleations.

IRIDECTOMY

Indications

1. The tumor is confined to the iris. This implies that it does not invade the ciliary body, does not extend into the filtration angle, does not infiltrate the cornea, does not show diffuse involvement of the iris stroma, and does not show evidence of extraocular extention through the anterior emissary channels.

For some unknown reason there may be a localized diffuse melanosis of the conjunctiva at or near the limbus corresponding to the sector of the iris involved. Except for the pigmentation, the conjunctiva appears normal. This does not represent tumor extension but seems to be an acquisition of melanin by the potentially pigment-producing basal cells of the conjunctiva, possibly due to

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a melanogenic agent emanating from the iris tumor.

It may not be possible to determine from the clinical examination, including gonioscopy, whether the tumor involves the ciliary body. As will be mentioned later, it may be possible in such cases to evaluate the situation more accurately by direct inspection at the time of the surgical operation.

2. Established growth or signs of active change. This must be evaluated either by very accurate measurements and drawings or by photography. In dealing with such relatively minute details, clinical impressions on the part of the patient and the ophthalmologist may be quite unreliable.

It is true that an iris lesion may show an accentuation of its pigment, perhaps at puberty or during pregnancy, but this does not necessarily imply active growth.

In establishing activity of a lesion the appearance of nutrient vessels in the tumor, or coursing in the iris stroma to the tumor, is significant. When the melanoma is in the periphery of the iris and it is difficult to decide whether the ciliary body is involved, the presence of episcleral vessels corresponding to the location of the iris tumor is suggestive evidence of ciliary body participation.

Incomplete dilatation or "splinting" in the area of the tumor is a very pertinent observation and signifies stromal invasion. Additionally, the pupil is often distorted, being elongated toward the lesion. This appearance may be accentuated by ectropion uvea.

3. Absence of tumor seedings. Tumor seeds or satellites may be seen as implantations over the iris surface or in the dependent angle of the anterior chamber. It may be difficult to distinguish between a tumor seed and iris freckle, since the presence of a melanoma not only serves to accentuate the pigment of pre-existing freckles but promotes the appearance of additional pigmented patches of benign potential. If the fellow iris has comparable freckles, the decision is made easier. If it is concluded that any extraneous pigmented lesion is a freckle and not a seed, there is no contraindication to local excision.

Some of the patients having an enucleation were subjected to iridectomy is an almost constant finding in the presence of an iris melanoma and presents no contraindication to an excisional iridectomy. This fine pigment dust over the trabeculae is not likely to be confused with tumor seeds, which are larger and tend to grow over the iris surface. The latter are particularly marked in diffuse malignant melanoma and their presence may verify the diagnosis in an early case in which a slightly darker iris than that of the fellow eye is the only other finding.

4. Absence of glaucoma. Elevation of the intraocular pressure in the involved eye only implies that the filtration angle is involved and that the lesion is too extensive for local excision. This can almost always be verified by gonioscopic examination. In some such cases a ring melanoma may extend primarily around the ciliary body, manifested clinically as a localized extension into the iris. In diffuse malignant melanoma in which the first apparent manifestation is an iris darker than its fellow, glaucoma ensues early due to the accumulation of pigment and tumor cells, which can often be appreciated only by gonioscopy. Needless to say, in such instances local excision should not be done.

5. Peripheral location. When a suspected lesion is in the periphery of the

iris closely approaching the angle area, an iridectomy should be done; whereas a similar lesion located near the pupillary area could be safely followed by further observation. The reason for this is that any additional growth in the periphery would involve extension into the angle, the ciliary body or the cornea. An iridectomy in such cases might well obviate a later enucleation. It is possible to perform successful excision of a peripheral lesion in apposition to the cornea provided that there is no acual invasion of the cornea or angle structures.

6. Excessive apprehension on the part of the patient. Occasionally the concern of ophthalmologists over the status of a melanoma found on routine examination or discovered by the patient and necessitating continued observation leads to inordinate apprehension on the patient's part. Regardless of whether or not such a lesion requires removal by the usual criteria, it may be necessary to excise the lesion in order to reassure the patient completely enough to avoid serious emotional disturbance.

Technique of Excision

The object of excisional iridectomy is to remove all of the tumor and to do so without causing dissemination of tumor cells in the eye or in the incision. To accomplish this, it is essential to make a limbal incision large enough to permit excision of the lesion by basal iridectomy under direct visualization. A conjunctival flap is dissected down to the limbus at the point where the tumor is located and sutures inserted in the manner followed in a cataract extraction. The conjunctival flap is easier to manipulate if it is kept very small. Entry into the anterior chamber is usually made with a keratome to one side of the lesion so that the point does not disturb the tumor. The incision should be as far back as possible in order to approach

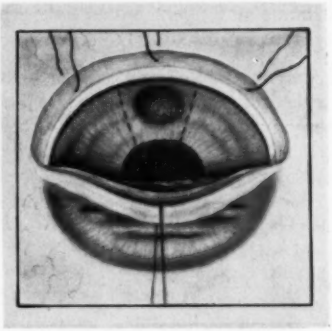

FIG. 1—A limbal section has been made to expose the tumor. Three sutures have been preplaced on the scleral side of the incision and a silk traction placed through the corneal side of the incision. The conjunctival flap is small and there is little shelving of the incision.

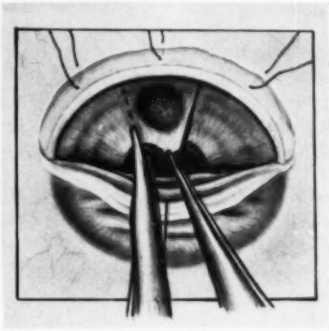

FIG. 2—Traction is exerted centrally with a forceps while radial cuts are made on either side of the tumor from the pupillary margin to the base of the iris.

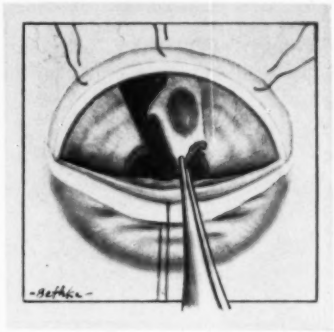

FIG. 3—The portion of the iris containing the tumor between the two radial cuts is torn from its insertion into the ciliary body.

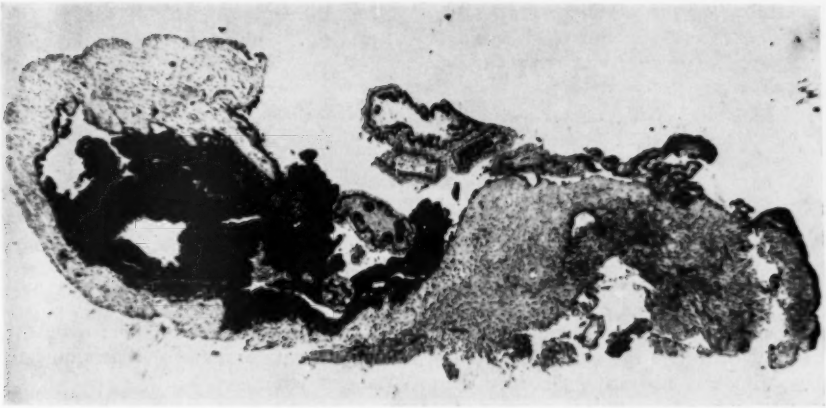

FIG. 4—An iris tumor removed by excisional iridectomy which was allowed to curl and become distorted prior to being placed in fixative. It is very difficult to evaluate the extent of the tumor and completeness of excision.

the base of the iris and avoid shelving. The section is then enlarged to either side of the lesion. Usually somewhat less than a full 180 degrees provides sufficient exposure. If there is much shelving of the incision, the periphery of the iris is concealed, making performance of basal iridectomy more difficult and preventing adequate view of the peripheral portion of the iris. A silk traction suture placed through the corneal margin of the incision aids in providing better visualization and allows wide separation of the wound lips when withdrawing the tumor from the eye (fig. 1). Further aid in inspecting the iris behind the tumor is provided by traction on the iris toward the pupillary area and retraction of the scleral margin of the incision by a limbal suture.

After trying various ways of performing the iridectomy, the best technique was found to consist of holding the pupillary margin to one side of the tumor and making a radial cut with the scissors to the base of the iris while exerting traction centrally (fig. 2). This is repeated on the opposite side of the tumor and the included iris tissue containing the lesion is torn from its insertion into the ciliary body (fig. 3). This latter step cannot be executed successfully unless both radial cuts extend to the extreme periphery.

Following removal, the excised iris and tumor tissue has a marked tendency to curl up and become distorted. If the specimen is placed in fixative in this state, microscopic sections will be so distorted that it becomes difficult to study them adequately and often it is not possible to evaluate whether or not the tumor has been completely excised (fig. 4). Therefore, if some attention

FIG. 5—The manner in which the excised specimen should be pinned out flat on the end of a tongue depressor prior to fixation in order to avoid distortion.

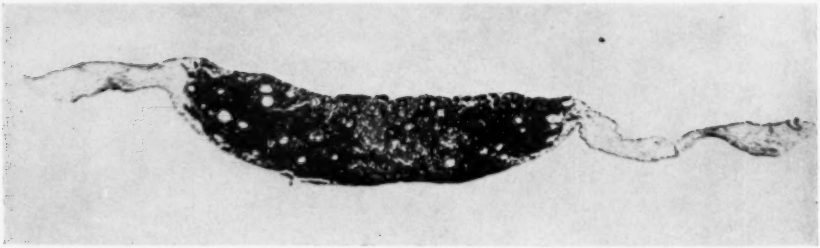

FIG. 6—Section prepared from a specimen handled in the manner shown in figure 5. The relationship of iris and tumor tissue is well preserved and completeness of excision can be readily evaluated.

can be given to the specimen after excision, it will help the pathology laboratory, and the laboratory, in turn, can obtain more accurate information for the surgeon. It is advisable, as advocated by Wadsworth, to pin the specimen carefully on the end of a tongue depressor prior to fixation (fig 5). Radial sections can then be made showing the full extent of the excised iris and tumor (fig. 6).

ENUCLEATION

After the discussion of the criteria for excisional iridectomy, it is apparent that enucleation is indicated in the following situations:

1. When the tumor is not sufficiently localized for removal by iridectomy, as in the following circumstances:

a. The tumor is of the diffuse type.

b. A ring-type melanoma is present.

c. The iris lesion involves the ciliary body. The presence of dilated episcleral vessels over the suspected region or localized cataractous changes in that area may occasionally provide clinical evidence incriminating the ciliary body even when there is no tumor visible behind the iris through a dilated pupil.

d. Tumor seeds are spread over the iris or in the filtration angle.

e. The tumor invades the cornea.

f. Glaucoma is present only in the involved eye. As discussed previously, this indicates a sufficient encroachment on the filtration angle to contraindicate local excision.

2. When it is known that tumor tissue remains in the eye following iridectomy.

This may be in the nature of microscopic and/or clinical evidence. If it is not possible to make a definite evaluation of the completeness of the excision on microscopic study, a diagnosis of malignant melanoma per se does not provide grounds for enucleation when there is no clinical evidence of remaining tumor.

In the recent report by Rones and Zimmerman,[10] there was evidence suggesting that in 11 cases in their series enucleation was performed following iridectomy solely because of a diagnosis of malignant melanoma on microscopic study and without any indication that the tumor had not been completely removed. Although we were unable to document similar cases in this series, it is worth emphasizing that the pathologist cannot bear alone the responsibility for all such decisions. In one of our cases an enucleated eye did prove to have no residual tumor when the distorted iridectomy specimen was reported microscopically to show incomplete removal.

Enucleation was performed subsequent to initial iridectomy in 10 patients in our group, and the above-mentioned

case was the only one in which the enucleated eye did not contain residual tumor. However, there were 6 cases of primary enucleation in which it appeared that an iridectomy would have sufficed. Separating cases studied in the last ten years from those studied previously, it is found that three of these six enucleations were performed prior to January 1, 1948, and three subsequent to that time. Of the total of 72 enucleations, 26 were performed prior to January 1, 1948, and 46 after that date. Thus we are unable to confirm the impression of Rones and Zimmerman,[10] and of Duke and Dunn,[4] that there has been an increasing tendency to perform unnecessary enucleations in recent years.

Further analysis of the type of treatment employed within the past ten years compared with that in previous years shows that there were 26 patients subjected to enucleation and 12 to iridectomy prior to January 1, 1948. Since that time there have been 46 enucleations and 49 iridectomies. In addition, most of the 22 patients who have been observed only were seen in the past ten years. Thus, in this series, the trend has actually been to do proportionately fewer rather than more enucleations. Aside from the changing attitude of ophthalmic surgeons, another factor may be increased attention paid to early lesions by both the medical profession and the general public.

OBSERVATION

In view of the relatively low malignant potential and usually slow growth of the iris melanomas, observation is not to be condemned if the choice between operation and observation is not clear. Discrete pigmented iris lesions of variable size and elevation are relatively common and frequently must be observed over a period of time to determine whether or not characteristics signifying malignant behavior are manifested. Undoubtedly many, if not all, malignant iris melanomas arise from benign lesions which in the beginning are usually small and rather flat but may develop considerable size and elevation. Lack of progression is the feature which establishes the diagnosis in the absence of other previously mentioned clinical criteria of malignancy.

Appraisal of the behavior of iris melanomas on the basis of present knowledge indicates that observation is the preferred course in some cases which formerly would have been candidates for surgery. This is particularly true of a localized tumor occupying a position far enough removed from the angle so that if growth is established, an iridectomy would probably suffice instead of an enucleation. The progression of a similar growth in the angle would probably call for an enucleation. In deciding on the best course to pursue for any given lesion, it is well to keep in mind the age of the patient and his life expectancy, especially in situations in which enucleation of an eye with good vision is being considered.

It is not possible at present to state whether or not there is increased risk in pursuing a course of observation in young women who are pregnant or likely to become so. Melanomas in general are thought to be activated occasionally by pregnancy,[1,8] but there was only one instance in this series in which pregnancy may have had a bearing on the behavior of the lesion. This was a case in which a melanoma of the iris gave rise to a hyphema.

Similarly, it is thought that puberty may have an activating influence on melanomas.[6,7,11] Four of the tumors in this series occurred in prepubertal children, but there is only one case which was followed continuously through the puberty of the patient by the same observer with specific attention to the lesion. This pa-

tient was 10 years old when the tumor was discovered. It was followed until she was 16, at which time its clinical behavior prompted an excisional biopsy. Histologic study indicated that the tumor was a malignant melanoma, completely excised.

PROGNOSIS

The over-all mortality in this series, as in other groups reported, is quite low.[2,3,4,9,10] There have been four known deaths due to metastatic spread in the 140 cases with follow-up information. This is a mortality rate of 3 per cent. Table I shows the distribution of cases for which follow-up information is available. Altogether 60 cases have been followed for five years or longer and 120 cases two years or longer.

Of great importance is the fact that no deaths occurred in patients receiving excisional iridectomy as the definitive therapy. It is evident that an iridectomy performed properly at a time when all the tumor can be removed in this manner not only prevents metastatic involvement but avoids the late complications of secondary glaucoma, pain, and blindness which can result from local dissemination.

TABLE I

THERAPY	FOLLOW-UP PERIOD Years	NO. OF CASES
Enucleation	Over 20	2
	15-20	3
	10-15	8
	5-10	20
	1- 5	25
	0- 1	11
	Total	69
Iridectomy	Over 20	1
	15-20	2
	10-15	2
	5-10	15
	1- 5	24
	0- 1	5
	Total	49
Observation	15-20	1
	10-15	1
	5-10	5
	1- 5	10
	0- 1	5
	Total	22

Analysis of the four fatal cases shows that enucleation was ultimately performed in each instance. In all cases microscopic study revealed that tumor had spread beyond the reach of local excision. In two cases excisional biopsies were performed six days and one week prior to subsequent enucleation, respectively. In a third case, iridectomies were performed in the course of two trephining operations during a five-month period prior to enucleation when it was ultimately recognized that the glaucoma present was secondary to a diffuse melanoma of the iris. In the fourth case enucleation was performed without initial iridectomy. Interestingly, three of these four cases were the diffuse type of melanoma in which delay is more likely due to failure to recognize the true nature of the process. The other case was a more localized lesion, but with extension beyond the iris. In this latter case iridectomy had been performed initially, although by the previously mentioned criteria it should not have been done.

It cannot be definitely proved, of course, that surgical interference in three of the four fatal cases prior to enucleation contributed to the ultimate outcome. It does seem obvious that the surgeon should proceed directly to enucleation if there is clear-cut evidence that local excision will not remove all the tumor.

There have been no progressive changes reported in the patients followed

by observation only. However, a number of patients were followed for a period of years before finally coming to surgery and thus being eliminated from the observation group. Observation had been advised for one of these patients thirteen years prior to enucleation. This patient did not report for periodic examination in the interim as recommended, and it is quite possible that an iridectomy performed earlier could have saved the eye. He is reported to have died two and a half years later of probable metastases, but this could not be verified well enough to list his case as a tumor death.

An unusual case reported by Koenig[5] serves to illustrate the unpredictability of these tumors. A large melanoma involving the iris and ciliary body in a patient's only eye was followed over a period of twenty years, and the medical history indicated that a lesion had been present for at least thirty years before that period. No secondary complications or metastases developed and the eye was obtained at autopsy following death from unrelated causes.

Since the great majority of patients remaining in the observation category have been followed less than ten years, it may be some time before the final prognosis of this group is known.

In view of the relatively slow growth of iris melanomas in general and the fact that metastases from other ocular melanomas can appear up to twenty or more years after appreciation of the primary lesion, further long-term follow-up studies are definitely in order for all patients found to have iris melanoma.

SUMMARY

Any pigmented iris lesion showing progressive growth or other evidence of malignant behavior should be excised by means of iridectomy if it seems possible to remove it completely in this manner. A lesion located in the periphery of the iris should be excised early, since any growth would be likely to involve the angle and ciliary body.

Enucleation is advisable if the tumor has obviously spread beyond the reach of local excision or if there is evidence of residual tumor peripheral to a previously performed iridectomy. The pathologic diagnosis of malignant melanoma does not provide grounds for enucleation in the absence of microscopic and/or clinical evidence of remaining tumor.

Observation is necessary in any case in which there is not clear-cut evidence of malignant character or behavior and there are no other indications for surgery.

The over-all mortality in this series, as in other groups reported, is quite low. Of great importance is the fact that none of the deaths occurred in patients in whom local excision proved to be definitive on the basis of clinical and microscopic evidence. There have been four known deaths due to metastatic spread in the 140 cases with follow-up information. Enucleation had been performed in the four fatal cases; in three, following earlier iridectomy. In each instance tumor had spread beyond the reach of local excision.

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DISCUSSION

BENJAMIN RONES, M.D., Washington, D. C.: The pleasure of discussing this paper derives from my great admiration of the senior author as a clinician and pathologist. The authors have kindly cited the recent paper of Zimmerman and myself, which is one facet of a continuing study on iris tumors from which we learned the importance of serial photography as being absolutely necessary to determine the increase in the size of these lesions. We found that this was the most important indication for their removal and that the vascularity, the splinting of the pupil, the recurrent hemorrhages, etc., were not reliable evidence of malignancy. Also to be emphasized is the importance of excising the iris lesions before the chamber angle is invaded. This presentation of the excision technique represents the superb surgical skill of Dr. Reese. However, I would like to mention that my own preference for entering the anterior chamber is by the ab externo approach with a Lundsgaard knife. I feel that this very simple entrance into the chamber carries no danger of cutting into the lesion. At this point I would like to stress the great importance of flattening the excised specimen to allow proper orientation, since the pathologist is not able to determine its complete excision if it is curled upon itself.

The authors state that one of the indications for enucleation is tumor tissue remaining in the eye following iridectomy. I would like to cite one of the cases in our series in which all of the tumor had not been removed at iridectomy and enucleation was advised, but refused by the patient. The residual tumor was then excised by a second iridectomy and the patient is living and free of recurrence seven years later. It is noteworthy that in this series the tendency to perform unnecessary enucleations in the past decade, as was present in our series and in that from the Wilmer Institute, could not be confirmed; if anything the procedures had become more conservative. I feel that this reflects the beneficent influence of Dr. Reese's teaching on the physicians who consult him and on the members of his own staff, while the A.F.I.P. series and the Wilmer series represented pathological specimens from diverse consultants all over the country who were not amenable to uniform advice. I am greatly interested in knowing the cytology in those cases in which the patient died with metastases. In our series we had only three "tumor deaths" and these were all in our Group II. However, there were thirty-eight cases in this same group in which we believe the cell types were capable of metastases. Only three of these resulted in death and consequently we felt that cytology alone did not form a basis for prognostication.

I fully agree that enucleation should be performed if there is clear-cut evidence that excisional therapy was not successful. However, whether or not this predisposes to fatal outcome is debatable, particularly in view of the course of some of these cases. In case eleven of our series, a woman had an iris lesion known to have been present for ten years. The mass finally encroached sufficiently upon the pupillary aperture to interfere with vision. Iridectomy was performed in 1942, following which the patient was lost to follow-up for several years because she had moved to another part of the country. In September 1955, the eye was blind and painful with a tension over 70. The clinician found no evidence of a tumor, but the eye was enucleated because of its pain. Histologic examination revealed a recurrent tumor in the anterior chamber angle, and comparison with the original growth showed them to be composed of identical cells. When last seen, the patient was in good general health and without evidence of metastasis.

In their summary, the authors stress that the four known deaths due to metastatic spread followed enucleations, three after earlier iridectomies. Do they infer that such therapy is especially dangerous? In our series we concluded that if the tumor had not been completely excised, there was a distinct possibility that it would recur and that eventually the eye would have to be enucleated. Even with such a delayed intraocular recurrence, however, the prognosis is relatively good, for distant metastasis had occurred in only two of six such cases. There are two further points that I would like to bring to your attention. During our studies Dr. Zimmerman made an observation which I consider to be extremely important for the clinician to confirm. He feels that it should be possible for the gonioscopist, as for the pathologist, to make a distinction between the pigmentary depositions in the trabecular meshwork giving rise to the so-called pigmentary glaucoma and those due to the growth of tumor cells in the angle. In the former case, the pigment will be confined to the meshwork in front of Schlemm's canal, while in the cases of tumor the pigmented line will be seen to reach above this, growing above Schwalbe's line and even invading the posterior corneal surface. The clinical and pathologic slides which I am demonstrating will emphasize this point.

I would like to close my discussion by again bringing to your attention the remarkable statements of Stallard concerning the surgical management of iris tumors. He feels that even if the chamber angle is involved by growth of the tumor along the corneal surface and into the anterior part of the ciliary body, the former can be excised and the latter treated by surface diathermy. Such daring attempts at excisional surgery certainly merit further consideration.

DR. CLEASBY: I would like to thank Dr Rones for his discussion and kind remarks. He mentioned that enucleation may not necessarily follow an iridectomy in which tumor is left in the eye, provided that the remaining tumor is amenable to further iridectomy. That is entirely possible; if the technique proposed in this paper were followed, any remaining tumor would be peripheral to the excised iris in the ciliary body and therefore not accessible for local excision.

Dr. Rones inquired about the cytology of the fatal cases in this series. That aspect of the question was not discussed in this report, and time is too short to go into the details of the cytology here. I might say that we agree that cytology of the tumor cannot provide a basis for prognosis, although there are temptations in that direction based on certain similarities of the cells to those seen in melanomas elsewhere in the uvea.

In evaluating the Hirnake outcome of patients for whom surgery has been advised and refused or who have submitted to novel or unusual types of treatment, it is difficult and often erroneous to draw conclusions without sufficient long-term follow-up information. In fact, much longer follow-ups than those available in this series are necessary, due to the natural behavior of these tumors and other melanomas with the eye.

It is certainly possible that glaucoma could result solely from the accumulation of pigment in the angle, although such cases were not found in this group. Thirty-six patients did have glaucoma. In each instance enucleation was performed and microscopic examination showed invasion of the filtration angle by tumor tissue. It seems likely that if pigmentation progresses to the point of causing elevated pressure, there would be an accompanying growth and dissemination of the melanoma itself.

PAPILLEDEMA CAUSED BY IRON-DEFICIENCY ANEMIA

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BY INVITATION

PAPILLEDEMA is a finding not infrequently seen by the ophthalmologist. The most common cause is disturbed relationships between intracranial and intraocular pressure, usually due to intracranial disease. It may also result from systemic disease such as malignant hypertension. In the terms herein used, papilledema is not to be confused with papillitis, inflammation of the optic nerve involving the nerve head.

The case presented is one of bilateral papilledema in a young girl with an unexplained microcytic, hypochromic anemia. Similar cases in the literature are reviewed. The papilledema is the result of the anemia and, in my opinion, is caused by increased intracranial pressure.

REVIEW OF THE LITERATURE

There have been eleven such cases reported, the bulk of them near the turn of the century and the most recent in 1936. They were at that time considered to be cases of chlorosis (a microcytic, hypochromic anemia of unknown cause occurring primarily in teen-age girls), with papilledema as an ocular complication. In choosing the cases to be considered in this review, certain criteria have been followed. All cases other than unexplained microcytic, hypochromic anemia, such as those of optic disc edema in pernicious anemia, leukemia, and following hemorrhage, have been excluded. Some cases that might otherwise belong were not included because the severe degree of visual loss or the presence of central scotoma made papillitis a possible explanation for the eye findings. Other cases were not included because the information reported was inadequate for this study.[1-5, 8-11]

The patients were all women, varying in age from 14 to 33, with 18 the average age. All presented signs and symptoms of anemia, including pallor and fatigability. Amenorrhea was reported in some patients. About three fourths of these patients gave a history of headache, usually moderately severe and constant. In a third of the cases there was a significant degree of nausea, or nausea and vomiting. The hemoglobin varied from 30 per cent to 56 per cent, with the red blood cell count between 3.2 and 6.1 million. The visual acuity of these patients ranged from 20/15 to 20/70 for both eyes. The patient with 20/70 vision in both eyes showed no central scotoma, only peripheral constriction of the fields.

In all cases there was definite edema of both optic discs. Most patients also showed an increase in the caliber of the veins and some degree of retinal hemorrhage. One half of the patients had a partial or complete macular star figure of deep, hard exudates in one or both eyes. Visual fields, reported in only a few of the cases, showed peripheral constriction, with ring scotoma reported in one. One patient was reported to have a right lateral rectus paresis that soon disappeared.

Other causes of papilledema, such as renal disease, were ruled out in almost

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every case by appropriate tests and, indirectly, by the prompt recovery of the patients with iron therapy.

All patients were treated with iron preparations. All but one showed complete clearing of the ocular fundi and return of vision to normal in direct association with the return of the hemoglobin level towards normal. This was accomplished in three weeks to four months. In one case, the vision of one eye remained at 20/60 while the other recovered to 20/20. In no case was a cause for the anemia found.

CASE REPORT

The patient is a 14 year old Negro girl who was admitted to the neurosurgery service of the University Hospital on April 4, 1957. She gave a history of frontal headache, shortness of breath and fatigability for about three months. She had also noted puffiness of the eyelids and slight blurring of vision, with occasional diplopia in recent weeks. There had been one episode of fainting three weeks prior to admission. The patient complained of intermittent tinnitus since that time. The patient had had relatively normal menses since the age of ten, although her most recent period had lasted fourteen days. The diet was adequate as outlined by the patient.

The patient had been hospitalized elsewhere just prior to her admission here, at which time bilateral papilledema had been noted. Skull roentgenograms had been taken and an arteriogram had been unsuccessfully attempted. The roentgenograms showed slight enlargement and increased density of the right anterior clinoid process, suggestive of right sphenoid ridge meningioma. The patient was then referred to the University Hospital.

Physical examination on admission here was negative except for the eye findings and a thrill over the base of the neck on the right. The latter was thought to be a traumatic arteriovenous aneurysm secondary to the attempted arteriogram, but the finding disappeared within six weeks.

Admission blood studies were as follows: hemoglobin, 4.8 grams (31 per cent); red blood cell count, 2 million; hematocrit, 18.5; white blood cell count, 4500 with a normal differential count. The urine was normal. An electroencephalogram showed mild nonspecific borderline features with no evidence for a focal cortical lesion. Roentgenograms of the gastrointestinal tract and chest were negative. Serum protein, electrolytes, and Kahn tests were normal. Iron absorption studies were normal.

The patient was seen by the department of ophthalmology soon after admission. The best corrected vision was 20/30 in each eye. The ophthalmoscopic appearance of each eye was essentially the same (fig. 1). The media were clear; the discs were markedly blurred and hyperemic, with one to two diopters of elevation. There was no visible physiologic depression or spontaneous venous pulse in either eye. The veins were somewhat engorged. There were numerous cotton-wool exudates and several superficial, striated hemorrhages around each disc. Each eye also showed half a macular star figure of deep, hard exudates between the disc and macula. Peripheral fields showed slight general constriction.

On April 9, 1957, the patient was transferred to the medical service with a tentative diagnosis of severe anemia with secondary ocular changes. The abnormality shown on skull roentgenograms was re-evaluated as a possible congenital variant. Treatment was begun with ferrous sulfate, 0.3 grams, and cobaltous chloride, 25 milligrams, three times a day.

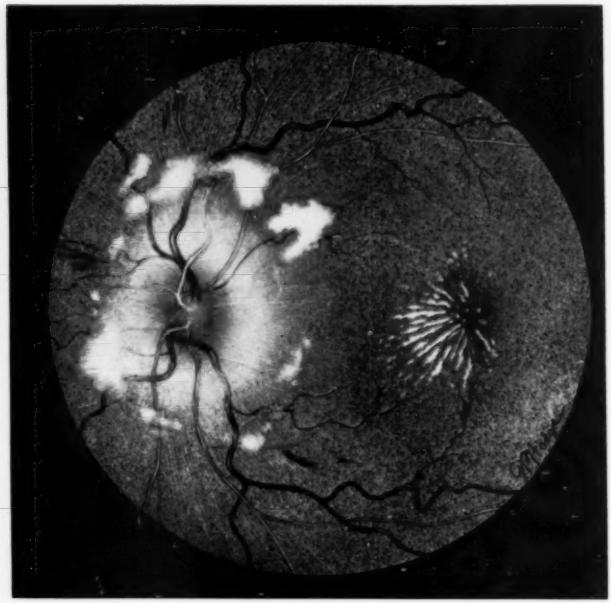

FIGURE 1.

With this treatment the blood picture began to return to normal. On April 17, 1957, the hemoglobin was 7 grams. On this date a lumbar puncture was done. With the patient well relaxed, the opening pressure was 280 millimeters of water. The clear fluid obtained showed negative serology, globulin, and colloidal gold curve, with a total protein of 21 milligrams per cent.

Ocular examination on April 25, 1957 (hemoglobin of 7.5 grams) revealed persistence of the disc edema, but fewer hemorrhages and exudates. Visual acuity remained 20/30 for each eye. Central and peripheral fields were normal except for enlargement of the blind spot of each eye.

There was continued improvement of all symptoms and eye findings, and the patient was discharged from the hospital on May 7, 1957, with a hemoglobin determination of 10.7 grams. She continued her medications at home and returned on May 23, 1957, for re-examination. Blood studies revealed: hemoglobin, 11.5 grams (74 per cent); red blood cell count, 4.2 million; hematocrit, 40 per cent; white blood cell count, 7550 with a normal differential count. Ocular examination that day revealed a visual acuity without correction of 20/20 for each eye. Examination of the fundi revealed normal discs with physiologic depression and spontaneous venous pulse. The retinal vessels were normal. There were no hemorrhages or cotton-wool exudates. All that remained of the star figure in each eye was a few small, sharply outlined white deposits between the disc and macula.

COMMENT

The diagnosis of chlorosis was once made quite frequently. The clinical picture was of a microcytic, hypochromic anemia due to an unknown cause. It oc-

curred primarily in teen-age girls. Improvement was dramatic with iron therapy. There was a curious marked decline in its incidence in the early 1900's, and it is now considered an extinct disease.

It is of little consequence whether the ailment of the patient whose case is presented here and in those cases previously reported is called chlorosis or is considered as iron-deficiency anemia. The latter term seems preferable since the term *chlorosis* has dropped out of common usage. The important thing is the awareness that this condition can give rise to bilateral papilledema. The difficulty is that these cases may be mistaken for cases of brain tumor. The frequency of headache and nausea and vomiting in this group adds to this possibility.

In none of the previously reported cases had a lumbar puncture been done. In this patient, lumbar puncture revealed an opening pressure of 280 millimeters of water, a significant elevation. Pagenstecher reported that Lenhart frequently revealed high pressure with lumbar puncture in patients with chlorosis.[7] It therefore seems reasonable to assume that the papilledema in this case was due to increased intracranial pressure.

In the absence of a space-occupying lesion, one wonders why the intracranial pressure should be elevated. Leinfelder and Paul did lumbar punctures on 17 patients with systemic disease and papilledema. Most of the patients had hypertensive vascular disease, two had leukemia, and two had nephritic retinitis. Fifteen of the 17 showed elevation of the intracranial pressure above normal limits. With rare exceptions, patients with the same diseases but with no papilledema showed normal intracranial pressure. Six of the patients with papilledema came to postmortem examination, and there was some degree of brain edema in each with no other apparent cause for the papilledema.[6] The prompt relief of symptoms and of the papilledema in the patient herein presented also indicates a reversible process such as edema of the brain.

SUMMARY

A case of bilateral papilledema occurring secondary to an iron-deficiency anemia is presented. There was prompt disappearance of the papilledema with iron therapy. Similar cases in the literature are reviewed.

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DISCUSSION

ERNEST BUETLER, M.D., Chicago: We are very much indebted to Dr. Lubeck for calling our attention to the rare occurrence which he has described today.

We can all agree that chlorosis and iron-deficiency anemia are almost certainly the same thing. His observation, therefore, is identical to the one which has been made previously on rare occasions. It seems very likely that the papilledema combined with the increased spinal fluid pressure was due to edema of the brain.

The problem I should like to consider for a few moments is, "Why should this patient have edema of the brain?" The usual answer to this question would seem to be that it was because she was anemic—and she was very anemic. But there are some things quite disturbing here. First of all, there are many patients who are much more severely anemic than this, and probably for a longer period of time, who do not develop papilledema. As a matter of fact, after I became aware of Dr. Lubeck's work, we performed a lumbar puncture on a patient with 4.8 grams of hemoglobin and she had no elevation of spinal fluid pressure and she had no papilledema. We realized, of course, that this does not happen in all iron-deficient patients, but only in a very few.

One reason why most people would ascribe the papilledema to the anemia is that there is very little awareness in general that there are changes in iron deficiency other than the anemia. About twenty or twenty-five years ago it was stated very authoritatively that the iron enzymes were not affected in iron deficiency. This statement has been repeated so many times in the literature that almost everyone has begun to believe it. However, there is very little experimental proof for this allegation, and in recent years we have carried out some investigation of what does happen to iron enzymes in iron-deficiency anemia, particularly in rats. We have found that certain iron enzymes have reduced activities in iron-deficient animals.

Perhaps, therefore, the situation in iron deficiency is somewhat analogous to the situation which one sees in pernicious anemia, in which certainly not all of the symptoms of the disorder can be explained on the basis of the anemia. Some of them are other manifestations of vitamin B_{12} deficiency.

I wonder, therefore, whether the brain edema which this patient undoubtedly had was a manifestation of the anemia or whether it might not have been a manifestation of a more subtle change in brain metabolism.

Will Dr. Lubeck tell us how often he has observed papilledema in the anemic patients whom he has examined?

DR. LUBECK: I would like to thank Dr. Beutler for his discussion of this paper. This is the only patient I have ever seen with papilledema secondary to anemia. The other cases that have been reported represent an extremely small percentage of people with severe iron-deficiency anemia. It is therefore certainly true that most patients with anemia this severe develop no signs of papilledema. We too have been puzzled by the question, "What is it about certain cases of anemia that will cause papilledema?"

AN INSTANT EYE MUSCLE BALANCE SCREENING TEST

SAMUEL M. DISKAN, M.D.
ATLANTIC CITY, NEW JERSEY

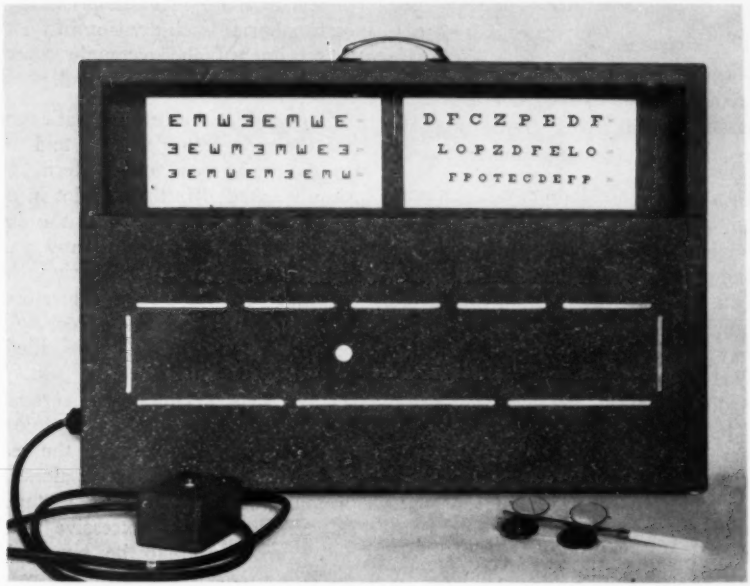

FIG. 1—The Atlantic City eye test. The lower panel contains the red dot and the green rectangle, used to detect vertical and horizontal ocular deviations simultaneously and instantly. The upper panel is used for testing visual acuity and hyperopia. The lens holder contains the red-green glasses to be worn by the patient.

THE truly normal position of the eyes at rest is probably unknown, because all phoria tests present artificial conditions as the modus operandi of the test. Phoria tests may yield different measurements of heterophoria depending upon the degree of excitation or depression of the fusional stimuli produced by the test. Basically, all phoria tests attempt to disassociate the visual functions of the two eyes. This visual disassociation can be produced by the use of a stereoscope, polarized light, the cover test, or prisms, or by the use of colored lights.

The latter method is the basis of this test. The red and green colors were found most adaptable. We employ a red and a green heavy plastic. When one is superimposed upon the other, no light is transmitted.

Spectacles with a red glass for the right eye and a green glass for the left eye are worn by the patient. A test chart consisting of an internally illuminated, light-proof box, the face of which is cut out to contain an illuminated red

Presented as a *New Instrument* at the Sixty-Third Annual Session of the American Academy of Ophthalmology and Otolaryngology, Oct. 12-17, 1958, Chicago.

dot in an illuminated green rectangle, is placed at twenty feet from the patient. Under these conditions the patient wearing the red-green glasses sees only the red dot with the right eye, and only the green rectangle with the left eye.

The chart is best placed against a blank wall. General illumination should be reduced until the red dot appears to move freely in space, indicating that visual disassociation has taken place.

As with the Maddox-rod examination, no source of light or reflecting surface should lie in the field of vision of the patient. Such light could stimulate fusion. The red plastic used in our test is quite dense and allows the examiner to have a dim light beside or behind the patient for general illumination and for recording results. The red dot is so situated in the green rectangle that if it were moved more than six cm. up or down, it would be above or below the green rectangle. Since six cm. represents the effect of one prism diopter at 20 feet, the patient with more than one prism diopter of hyperphoria will see the red dot above or below the green rectangle, while wearing the red-green glasses.

Similarly the test will place the red dot outside the rectangle if there are more than four prism diopters of exophoria or more than six prism diopters of esophoria. Each division in the upper green line of the rectangle represents two prism diopters of lateral phoria.

To conduct the test the patient wearing the red-green glasses is told to look at the red-green test pattern. He is simply asked: "Is the red dot in or out of the green rectangle?" If the dot appears within or touching any part of the green rectangle, the phoria is within the prism diopter limits specified. If the dot appears outside the rectangle, the phoria exceeds the limits specified and the patient has failed the test. Thus the test detects lateral and vertical imbalances simultaneously and almost instantaneously. When either the red dot or green rectangle is seen alone, suppression exists. The phoria standards selected do not fail excessive numbers and were found to be practical for screening purposes. Results are constant and dependable.

TRANSACTIONS

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American Academy of Ophthalmology and Otolaryngology
15 Second Street S.W., Rochester, Minnesota

CLINICS IN MEXICO CITY

Extended sessions of the annual meeting in Chicago will be held in the medical schools and hospitals in Mexico City the following week. In 1955 and 1956 a group of Academy members with their wives and guests traveled by air to Mexico City on a planned tour conducted by Mr. Leon V. Arnold. There was no planned program. The medical schools and hospital clinics were open to observers and the members of each staff demonstrated their methods of examination of patients, their methods of treatment, and the educational program for graduate students in ophthalmology and otolaryngology. These trips were worth while from every standpoint. Some diseases encountered but rarely in the United States are endemic in Mexico, and clinical cases for demonstration were shown by the excellent staff.

The extended program this year will include assemblies for reading of papers and exhibition of motion pictures and slides. There will be live clinics, including surgical operations under the auspices of the chiefs of staff of the local hospitals.

Travel arrangements, including housing and local transportation in Mexico City to and from the clinics, in an all inclusive package have been set up by Mr. Arnold who conducted the previous tours.

The world-wide program of medical care so fully endorsed by the American Medical Association and the federal government through the public health movements is expanding in every part of the world. The Academy has long been committed to advancement of knowledge in medicine by making possible advanced study in our specialties through Home Study Courses, teachers' manuals, motion pictures, pathologic atlases, scholarships in pathology, teachers' courses, and in a number of subcommittee and ancillary organizations. These aids to education are used throughout the world. The Academy is truly international except for administration.

After the meeting in Chicago, fly down to Mexico for another week of most interesting clinical experiences and incidentally see a bit of the beautiful country that touches our southern border.

THE ACADEMY PROGRAM

To promote education is one of the major interests of medical societies and is the principal purpose of the American Academy of Ophthalmology and Otolaryngology. Consequently the Academy has developed ways and means of carrying on a sustained educational program. In the broad field of education there are areas of activity that overlap yet carry a distinctive character that requires classification into categories and disciplines for effective administration. A course of study provided by an accredited college or university may adapt an intramural curriculum to extramural programs. As extension courses they may be credited toward a degree. Such a plan is economical and permits the student to carry on his studies off campus. There are two important differences between the on-campus and the off-campus courses. The economic situation may not be so important so long as scholarships and grants-in-aid are available—but the important advantages of on-campus study are the personal supervision of an instructor and the contact with other students. Furthermore, only studies that do not require special equipment and facilities can be pursued as off-campus courses. Some basic sciences of interest in ophthalmology and in otolaryngology come within the category of extramural subjects, and study courses can very well be provided by a medical society.

It is possible to augment extramural study courses by classes for didactic instruction held at intervals and conducted by professional and experienced teachers who are familiar with the work done by extramural students (who prepare and submit for review treatises on the assigned subjects). This is largely a method of individual education. It must be planned and directed by a teaching staff of the highest caliber. The written responses to suggested topics, often posed in question form, require consideration of a number of factors that are inherent in the plan, such as lack of exchange of personal ideas, differences in educational background, environment, age, manner of expression and many others. To offset such a situation, an occasional meeting of a group of off-campus students with the instructor makes it possible to correlate extramural courses with classroom instruction. Self-help students who would find it difficult or impossible to pursue college-type studies on campus are able to complete requirements for a degree or citation.

Advanced medical training is not necessarily an institutional project. The art of medical practice cannot be learned from books. The fundamental sciences from which the sensory disease specialties have grown form the basis of medical practice and constitute the principal areas for postgraduate research. The medical student who has completed the requirements of his certifying Board may elect to spend a considerable part of his time in research while he continues private practice, but this is the exception. Most graduates elect to spend full time in practice and to depend on regular educational sources to keep themselves fairly well informed. The textbooks, journals, news letters, abstracts and other literature that flood the libraries of most offices offer a maze of information, more than any one man can read and remember. He is likely to become confused on most subjects and to feel the need to talk things over with his colleagues. In local, state, national and international meetings the average practitioner finds what he wants: the

chance to meet old and new friends, to get a new personal viewpoint, and to attend scientific sessions, seminars, and classroom lectures.

Such an educational program was begun by the American Academy of Ophthalmology and Otolaryngology in 1921 with the inauguration of the Courses of Instruction in Ophthalmology and in Otolaryngology. In 1940 the Home Study Courses were launched. These two methds of education were appended to the activities of the usual type of medical specialty society, and they have strengthened our specialties more than any other single agency.

Administration has developed as needs required under prevailing circumstances. An annual program has been developed, with minor changes each year until now there is a semblance of academic relationship between the Scientific Assemblies, the Instruction Courses and the Home Study Courses. The evolution of an educational body in a group of practicing physicians to the extent that it has been accomplished in the Academy is without precedence in American medicine. It has succeeded in attracting faculty members, residents, and researchers from all schools of the nation and many from beyond our national borders. It is recognized by civil organizations and government organizations as an educational institution operated on a nonprofit basis, entirely self-supporting and independent. Let's keep it that way.

W.L.B.

LETTERS TO THE EDITOR

March 18, 1959

Dear Doctor Benedict:

This letter is a request for you to advertise the Casselberry Award of the American Laryngological Association in the Transactions of the American Academy of Ophthalmology and Otolaryngology.

A sufficient fund having accrued from the Casselberry Fund for encouraging advancement in the art and science of Laryngology and Rhinology, this sum is now available in part or as a whole, for a prize award. Theses must be in the hands of the Secretary of the American Laryngological Association prior to January 1 of any given year.

The Award is a prize of money with accompanying certificate signed by the officers of the American Laryngological Association. The sum of money will be agreed upon by the Council of the Association after the manuscript has been evaluated by the Award Committee. It may be awarded in whole or in part among several contestants.

Eligible contestants may be: 1. Hospital interns, residents, or graduate students in Rhinology and Laryngology; 2. An individual with an M.D. degree who is actively practicing or teaching Rhinology and Laryngology in the Americas; 3. Any scientific worker in the field of Rhinology and Laryngology.

Manuscripts shall be presented to the Secretary of the Association under *nom de plume* which shall in no way indicate the author's identity. There shall also be a sealed envelope bearing the *nom de plume* and containing a card showing the name and address of the contestant which the Secretary shall keep in his possession.

Manuscripts must be limited to 5000 words and must be typewritten in double

spacing on one side of the sheet. The thesis shall not have been published elsewhere before submission.

The successful thesis shall become the property of the American Laryngological Association but this provision shall in no way interfere with publication of the thesis in the Journal of the author's choice. Unsuccessful contributions will be returned promptly to their authors.

The Award which will be made at the Annual Meeting of the American Laryngological Association shall be based on:

1. Originality of material.
2. Scientific and clinical value.
3. Suitability for this Award.
4. Method of presentation as to style, illustrations and references.

The maximum amount of the Award shall not exceed $200.00.

Yours very sincerely,
[Signed] J. H. MAXWELL

March 1, 1959

Dear Doctor Benedict:

We started from Tokyo August the last year for our trip abroad via north-pole air line as the representatives of the Japan Ophthalmological Society. After the visit of Europe, Canada and America, we came back Tokyo in January this year.

When we reached to your nation, you treated us with such sympathetic kindness, we shall not forget all your kindness extended for us, and also your beautiful country showing us the warm deep hospitality.

With best wishes, Yours sincerely,

[Signed] PROF. KOHEI OHASHI
Tokyo Jikei-kai School of Medicine

[Signed] PROF. NOBORU KUNITOMO
Nippon University School of Medicine

AWARDS FOR ORIGINAL INVESTIGATION IN OTOLARYNGOLOGY

Manuscripts submitted for awards for original investigation in otolaryngology should be sent to

JUERGEN TONNDORF, M.D.
Room 13
Medical Research Center
Iowa City

For details of the Awards Program, see the March-April, 1959 issue of the TRANSACTIONS, pages 239 and 240.

In Memoriam

Donald T. Atkinson.....San Antonio, Texas
March 20, 1959

Everett H. Brooks.....Bloomington, Wisconsin
December 17, 1958

Louis Bernard Bushman.....Omaha, Nebraska
December 30, 1958

Bert E. Hempstead.....Rochester, Minnesota
April 16, 1959

George Esplen Hodge.....Westmount, Quebec, Canada
October 10, 1958

Edward Francis Lawlor.....Waltham, Massachusetts
January 27, 1959

Norman Vern Peterson.....Avon Park, Florida
January 15, 1959

Manuel Uribe Troncoso.....New York, New York
January 21, 1959

Oliver W. Turner.....Elmhurst, Long Island, New York
November 24, 1958

SECTION ON INSTRUCTION

SIXTY-FOURTH ANNUAL MEETING

American Academy of Ophthalmology and Otolaryngology

October 11-16, 1959

PALMER HOUSE

Chicago, Illinois

A. D. RUEDEMANN, M.D.
Secretary for Instruction — Ophthalmology

DEAN M. LIERLE, M.D.
Secretary for Instruction — Otolaryngology and Maxillofacial Surgery

This Section presents for 1959:

Ophthalmology: 170 Individual Courses; 60 Continuous Courses. The faculty is comprised of 274 instructors, and the hours of instruction total 411.

Otolaryngology: 124 Individual Courses; 32 Continuous Courses and Panel Discussions. The faculty is comprised of 154 instructors and the total number of instruction hours is 196.

An *individual* course is complete in one (1) period. A *continuous* course runs two (2) or more periods as indicated. It is not possible to purchase a ticket to only *part* of a continuous course. Some courses are repeated on different days allowing the subscriber to choose the time when he wishes to attend.

Ordering Instruction Tickets

Only members who have paid their 1959 dues may order instruction tickets in advance of the meeting. **Members should order tickets only for their own use.** *Candidates for fellowship in the Academy are not privileged to reserve tickets in advance.* After the session opens, no distinction between members, candidates and guests will be made in selling tickets.

At the end of this section is printed a colored sheet to be used when ordering tickets in advance. Specify preferences on this sheet and mail to the executive office. Careful attention to instructions will ensure the correct filling of your requests. *Since number of tickets for each course is limited, be sure to list second and third choices for each period in case first choice is already sold out. In every case, effort will be made to furnish first choices.*

If you are requesting registration in the continuous courses, please specify preferences for individual courses as substitutes in order to avoid disappointment should the continuous courses which you select be sold out when your order is received.

Each period (1 hour) of instruction costs $2.00. *Orders not accompanied by properly executed checks will not be filled.* Checks should be made payable to W. L. Benedict, M.D., and mailed to the Academy office, 15 Second St. S.W., Rochester, Minn.

All orders for tickets will be filled according to the postmark on the envelope containing the check. Telegrams will not be honored. Orders will not be accepted for presale after October 1; to ensure acceptance they should be mailed before September 29.

Acknowledgment of Advance Order

As soon as an advance order is filled, a post card, listing the courses that have been reserved for him, will be mailed to the subscriber. Please do not ask to change courses after your order has been filled. The post card is merely an assurance that your order has been filled; it is not necessary for registration at the Academy meeting.

Claiming Instruction Tickets

No tickets will be sent through the mails. Members who have ordered instruction course tickets will register at the *Advance Order Section* of the Registration Desk during the week of the Convention to secure registration badge, tickets, and all convention material.

Tickets will be on sale during the meeting at the Instruction Desk in the Registration Foyer and the Seventh Floor.

Refunds

If courses requested are not available and it is impossible to substitute, a refund will be granted. A blue refund card will be placed in the Advance Registration Envelope which is received at the time of registration. This may be presented at the Instruction Desk for payment.

In case of inability to attend the meeting after order has been filled, a refund will be granted if requested prior to October 9.

If you have ordered tickets in advance, at the time of registration take your registration card to the desk marked ADVANCE ORDERS. There you will be given an envelope containing badge, tickets and program which has been prepared ahead of time to facilitate your registration.

KEY TO DESIGNATION OF PERIODS

The periods will be designated with the following key: Select tickets for — Otolaryngology, forenoons, periods 1-2-3 — Ophthalmology, afternoons, periods 4-5-6

Day	(M)onday	(T)uesday	(W)ednesday	(Th)ursday
Period a.m.		1 2 3	1 2 3	1 2 3
Period p.m.	4 5 6	4 5 6	4 5 6	4 5 6

M-4	2:00 p.m. to 3:00 p.m.	W-4	2:00 p.m. to 3:00 p.m.
M-5	3:15 p.m. to 4:15 p.m.	W-5	3:15 p.m. to 4:15 p.m.
M-6	4:30 p.m. to 5:30 p.m.	W-6	4:30 p.m. to 5:30 p.m.
T-1	9:00 a.m. to 10:00 a.m.	Th-1	9:00 a.m. to 10:00 a.m.
T-2	10:15 a.m. to 11:15 a.m.	Th-2	10:15 a.m. to 11:15 a.m.
T-3	11:30 a.m. to 12:30 p.m.	Th-3	11:30 a.m. to 12:30 p.m.
T-4	2:00 p.m. to 3:00 p.m.	Th-4	2:00 p.m. to 3:00 p.m.
T-5	3:15 p.m. to 4:15 p.m.	Th-5	3:15 p.m. to 4:15 p.m.
T-6	4:30 p.m. to 5:30 p.m.	Th-6	4:30 p.m. to 5:30 p.m.
W-1	9:00 a.m. to 10:00 a.m.		
W-2	10:15 a.m. to 11:15 a.m.		
W-3	11:30 a.m. to 12:30 p.m.		

(Familiarity with this key will be helpful and will avoid confusion)

1959

CONTINUOUS COURSES — OPHTHALMOLOGY

COURSE 1

Room 738 Periods M-4, M-5, T-4, T-5, W-4, W-5, Th-4, Th-5

JAMES H. ALLEN, M.D., et al.

Bacteriology and Infectious Diseases of the Eye

An eight-period course—$16.00

The first hour of the course will be devoted to bacteriology and methods of etiologic diagnosis of infectious diseases. Six hours will be devoted to the clinical manifestations and differential diagnosis of infectious and allergic diseases of the eye, and one hour will be devoted to a general summary of the therapy of infectious diseases.

M-4—Bacteriology
James H. Allen, M.D.
New Orleans

M-5—Infections of the Lids and Lacrimal Apparatus
Hugh Ormsby, M.D.
Toronto, Ont., Canada
BY INVITATION

T-4—Bacterial Infections of the Conjunctiva
Isadore Givner, M.D.
New York

T-5—Allergic Diseases of the Lids, Conjunctiva, and Cornea
Frederick H. Theodore, M.D.
New York

W-4—Infectious Diseases of the Cornea
Henry F. Allen, M.D.
Boston

W-5—Virus Infections of the Lids and Conjunctiva
Samuel J. Kimura, M.D.
Berkeley, Calif.

Th-4—Infections of the Orbit and Globe (to include surgical infections)
Gustav Bahn, M.D.
New Orleans

Th-5—Therapy of Infectious Diseases
Alson E. Braley, M.D.
Iowa City

COURSE 2

Room 713 Periods M-4, M-5

KARL W. ASCHER, M.D.
Cincinnati

Aqueous Veins in Glaucoma

A two-period course—$4.00

The aqueous veins are biomicroscopically visible pathways similar to blood vessels in appearance, containing clear, colorless fluid or diluted blood or both, and intercalated, via Schlemm's canal, between intraocular fluid and conjunctival or episcleral veins.

The detection, in 1941, of the aqueous veins confirmed the presence of a continuous elimination—and therefore production—of aqueous humor, resolving a controversy of decades and opening up new approaches to glaucoma research. The physiologic implications of these structures have been verified by numerous investigators in studies on man and animals. The control of flow appears to reside within the roots of the aqueous veins, deep in the scleral tissue, with a regulating center which is probably located in the diencephalohypophyseal area. The trabeculae also play a role.

The qualities of the aqueous veins and their bearing on the retention theory and the neurovascular theory of glaucoma will be discussed. A motion picture will be shown.

COURSE 3

Room 721 Periods M-5, M-6

ELMER J. BALLINTINE, M.D.
Cleveland
and
E. PURNELL, M.D.
Euclid, Ohio
BY INVITATION

Clinical Tonography

A two-period course—$4.00

The value of tonography as a practical clinical office procedure in the management of glaucoma has been established.

The clinical procedure and the more common sources of errors will be demonstrated in a motion picture and discussed in sufficient detail that the observers will be able to perform the test or instruct their technicians in the procedure.

Most of the time will be spent in interpretation and discussion of tonographic data obtained in the following clinical situations:

1. Early diagnosis of glaucoma
2. Refinement of provocative tests
3. Anticipation of failure of medical therapy before field loss occurs
4. Anticipation of failure of previously successful antiglaucoma surgery
5. "Low-tension glaucoma" as a result of
   (a) decreased scleral rigidity
   (b) "arrested" glaucoma
   (c) cavernous atrophy of the nerve and related concepts

COURSE 4

Room 713 Period T-4, T-5

BERNARD BECKER, M.D.
St. Louis

V. EVERETT KINSEY, Ph.D.
Detroit

Studies of Aqueous Flow

A two-period course—$4.00

Current concepts of the composition of the aqueous humor and the manner of its formation will be presented.

The rate of aqueous secretion will be discussed from the point of view of methods of measurement and induced alterations.

COURSE 5

Room 762 Periods M-4, T-4, W-4

ARTHUR J. BEDELL, M.D.
Albany, N. Y.

Ophthalmoscopy

A three-period course—$6.00

Kodachrome demonstrations with hundreds of photographs in a comprehensive review.

Normal variations, anomalies and unique patterns.

Circulatory alterations including sudden arterial or venal occlusions with serial studies. The retinopathy found in diabetes, the hypertensive state, and arteriosclerosis. The blood dyscrasias, tuberculosis and syphilis.

The optic nerve diseases; emphasis on the differentiation between edema, choked disc, infection, and optic neuritis.

Senile macular degeneration from the earliest signs to terminal scars.

COURSE 6

Room 722 Periods M-6, T-6, W-6

MILTON L. BERLINER, M.D.
New York

Recent Advances in Biomicroscopy

A three-period course—$6.00

COURSE 7

Room 702 Periods Th-4, Th-5

PAUL BOEDER, Ph.D.
Iowa City

Practical Optics

A two-period course—$4.00

The optical properties and practical aspects of single vision and contact lenses as well as of all types of multifocal lenses will be discussed: in particular, their defects and prismatic effects, such as object displacement, image jump, vertical imbalances, and decentration. This will be followed by a discussion of cataract and telescopic lenses, and finally, by a review of the optical principles of retinoscopy, and direct and indirect ophthalmoscopy.

COURSE 8

Room 713 Periods W-5, W-6

ALSON E. BRALEY, M.D.
Iowa City

Fundus Lesions:
Diagnosis with Slit Lamp

A two-period course—$4.00

Examination of the fundus and vitreous with the slit lamp is an aid to

diagnosis. In order to see the fundus, the Hruby lens or a special contact lens is necessary. A thin contact lens allows the examiner to swing the slit lamp beam over a wide range when compared to the Hruby lens. The contact lens also gives the observer better stereoptic view of all the deep structures. The normal eye and pathologic eye examined with the slit lamp and contact lens demonstrates many a new observation and aid to the ophthalmologist.

COURSE 9

Room 778 Periods T-5, T-6

ROBERT J. BROCKHURST, M.D.
Nahant, Mass.

Indirect Ophthalmoscopy

A two-period course—$4.00

This course will be divided into two parts. The first part will consist of a lecture on the technique and applications of indirect ophthalmoscopy, slides of fundus paintings being used to demonstrate findings. The second part will be a practical session wherein the students will use indirect ophthalmoscopes to examine rubber eyes.

COURSE 10

Room 795 Periods M-4, M-5, T-4 T-5, W-4, W-5, Th-4, Th-5

HAROLD W. BROWN, M.D., et al.
Eye Muscles

An eight-period course—$16.00

M-4 & 5—Physiology and Pathology of the Ocular Muscles
Harold W. Brown, M.D.
New York

The physiologic action of the individual muscles in conjugate and disjunctive movements (convergence, divergence) will be discussed and illustrated. From these normal physiologic acts, the pathologic variations will be developed and classified. Various methods of diagnosis measurement of deviations and the surgical and nonsurgical correction of these deviations will be presented.

T-4 & 5—Congenital Anomalies
Rudolf Aebli, M.D.
New York

The subject matter will cover the more usual congenital anomalies such as retraction syndrome and its variations, strabismus fixus, Marcus Gunn jaw-winking syndrome, paralyses of both elevators of one eye with true ptosis and pseudoptosis, and also congenital individual muscle anomalies. Differential diagnosis and treatment, if any, will be discussed.

W-4—Tests
Paul T. McAlpine, M.D.
Summit, N. J.

Tests in common use will be briefly described and the relative merits discussed. Emphasis will be placed on the screen cover test and its modifications. A practical routine muscle test will be outlined, and the technique of the various procedures will be described in detail.

W-5—Surgical Techniques in the Management of Motor Anomalies
William B. Clark, M.D.
New Orleans

The anatomy of the extraocular muscles with their fascial attachments will be briefly discussed. Techniques of the various operations on the extraocular muscles will be presented in detail.

Th-4 & 5—Surgery of the Extraocular Muscles
Harold W. Brown, M.D.
Rudolf Aebli, M.D.

The indications and contraindications for surgical correction of heterophoria and heterotropia will be discussed. Special emphasis will be placed on the methods used in selecting the proper muscle or muscles for operation and the amount of correction that can be expected from the different types of surgical procedures.

COURSE 11

Room 715 Periods T-5, T-6

VICTOR A. BYRNES, M.D.
Washington, D. C.

Ophthalmic Filters

A two-period course—$4.00

In prescribing sunglasses or tinted lenses the following factors should be considered:

a. In what kind of light will these filters be used?
b. What effects do these light wavelengths have on the eye if unfiltered?
c. What effects do the various filters have on the light distribution?
d. What is the effect on vision of the changes in the light reaching the eye?

These factors will be discussed. Other topics for discussion will include sunglasses of different shades and the advantages and disadvantages of each; tinted lenses for constant wear; types of tinted lenses advocated for night driving and their defects; tinted windshields and their transmission curves, uses and disadvantages; reflecting filters and their uses; relative merits of glass and plastic lenses; use of sunglasses with corrections for refractive errors; strength of corrections which can be ground in large-size sunglass lenses; polarizing lenses; shooting glasses; defects of clip-on lenses; filters for possible use in prevention of intraocular damage by atomic flash and other high intensity radiation.

M-5 & 6—Basic principles
Alston Callahan, M.D.
Birmingham, Ala.

T-5—Burns of the lid; lacerations of the lid
Merrill J. Reeh, M.D.
Portland, Ore.

T-6—Repair of ectropion; correction of marginal defects
J. Gordon Cole, M.D.
New York

W-5—Entropion and trichiasis
Joseph C. Hill, M.D.
Toronto, Ont., Canada

W-6—Ptosis, blepharochalasis, baggy lids
Charles Iliff, M.D.
Baltimore

Th-5—Lid and lacrimal drainage system repair. Fundamental techniques after trauma and disease
Sidney A. Fox, M.D.
New York

Th-6—Panel for informal discussion, problem cases and questions by those taking the course

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COURSE 12

Room 752 Periods M-5, M-6, T-5, T-6, W-5, W-6, Th-5, Th-6

ALSTON CALLAHAN, M.D., et al.

Ophthalmic Plastic Surgery: Fundamentals

An eight-period course—$16.00

This course is planned for ophthalmologists whose experience with lid surgery has not been extensive. It is designed to teach methods for correction of the simple lid problems as outlined by the various instructors. Those who have taken the course should be able to repair most lid defects competently. Since this course is integrated with the Advanced Course in Ophthalmic Plastic Surgery given by Dr. Wendell Hughes and his colleagues, it is recommended that it should be taken before Dr. Hughes' course unless one has had extensive experience in surgery of the lids.

COURSE 13

Room 721 Periods M-4, T-4, W-4

GRAHAM CLARK, M.D.
New York

Retinal Detachment

A three-period course—$6.00

The following outline will be utilized:

I. Types of retinal detachment and their holes: causative mechanisms, surgical approach, and prognostic significance

II. Treatment of the simple detachment, with emphasis on the electrical principles involved in the use of diathermy

III. Treatment of complicated detachments, with discussion of the various procedures for shortening the sclera

COURSE 14

Room 727 Periods Th-4, Th-5

WILLIAM B. CLARK, M.D.
New Orleans

Surgery of Ocular Muscles

A two-period course—$4.00

COURSE 15

Room 702 Periods T-5, T-6

EDMOND L. COOPER, M.D.
Detroit

Principles of Muscle Surgery

A two-period course—$4.00

The aim of muscle surgery is to align the visual axes. In cases in which a functional result can be expected, an operation should be considered only as a supplement to optical and orthoptic treatment, but alignment must be attained if binocular vision is to be the end result. In cases in which only a cosmetic result can be expected, alignment is none the less important.

It is the purpose of this course to explain the principles which enable us to obtain the proper alignment of the visual axes. Included among these principles are (1) proper diagnosis; (2) early operation; (3) influence of prognosis; (4) preoperative planning of amount of surgical correction to attempt and how this is determined; (5) technique.

Since the results of surgical procedures on the ocular muscles are hard to predict, the ophthalmic surgeon may sometimes find that the result of an operation is overcorrection of the deviation. During the second hour of this course, the proper method of treatment in such cases will be considered.

COURSE 16

Room 782 Periods M-4, M-5, T-4, T-5

COURSE 17

Room 782 Periods W-4, W-5, Th-4, Th-5

JACK C. COPELAND
Chicago

Streak Retinoscopy

A four-period course—$8.00

This four-hour course is being presented twice, as Course 16 on Monday and Tuesday and as Course 17 on Wednesday and Thursday. **Please select course number according to days on which you wish to attend.**

The following outline describes the steps of the demonstration:

1. Determining the neutral point
2. Revealing low astigmatic errors
3. Locating the zone of the astigmatic band
4. Determining the power of the cylinder
5. Estimating the type and degree of error without lenses
6. Refining axis position by "Guide Angle" technique
7. Plus cylinder procedure

COURSE 18

Room 731 Periods M-4, M-5

FRANK D. COSTENBADER, M.D.
Washington, D. C.

Muscle Problems

A two-period course—$4.00

This course will consist of informal discussion of specific "problem" cases. No formal lecture is anticipated.

Registrants for the course will be encouraged to submit in writing, by mail, a detailed description of cases they wish discussed. As much of the etiology, diagnosis, and treatment of these cases will be discussed as time permits.

COURSE 19

Room 786 Period T-4, T-5

GERALD E. FONDA, M.D.
Short Hills, N. J.
and
LOUISE SLOAN, Ph.D.
Baltimore
BY INVITATION

Subnormal Vision: Technique for Examination

A two-period course—$4.00

The technique for subnormal vision examination, with emphasis upon the importance of history taking, nonoptical methods of correction, and the sequence of examination procedures, including the trial of different types of lenses, will be considered.

Correction of 80 per cent of patients with subnormal vision can be accomplished from the trial case by extension of the routine eye examination. The types of lenses used are conventional lenses, strong reading additions for monocular and binocular use, doublet magnifiers, microscopic bifocals, and telescopic lenses. Bifocals with reading additions up to +32.00 diopters are successful.

Various lenses will be demonstrated, and indications for their use will be explained. Types of pathologic ocular conditions, favorable and unfavorable for correction, will be classified.

Method of testing visual acuity at 40 cm. for determining diopter power required for variable degrees of visual defect will be explained.

COURSE 20

Room 752 Periods M-4, T-4, W-4

GEORGE P. GUIBOR, M.D.
Chicago

Orthoptics: Office and Home Techniques

A three-period course—$6.00

The first hour will be devoted to a discussion of those patients with squint existing since birth or shortly thereafter. Such patients will be found to have strabismus fixus, spasmus fixus, intermittent exotropia, spastic esotropia, abducens palsy, and other oculomotor palsies.

During the second hour, heterophorias will be discussed, especially convergence insufficiencies and vertical deviations. A differential diagnosis between the heterophorias and ciliary defects will be presented.

In the third hour, visual defects seen in children and their influence on reading disturbances will be discussed.

COURSE 21

Room 733 Periods W-5, W-6

ROBISON D. HARLEY, M.D.
Atlantic City

Lesions of the Third, Fourth and Sixth Cranial Nerves: Topical Diagnosis

A two-period course—$4.00

Diagnosis of lesions of the third, fourth and sixth cranial nerves requires a systematic consideration of the orbit, cavernous sinus, base of the brain, brain stem, nucleus and supranuclear connections. Intermittent insufficiency of the basilar artery and the production of cranial nerve lesions will be discussed. The various causes of third nerve paralysis will be considered.

Intracranial aneurysm as a frequent cause of oculomotor paralysis will be reviewed at some length.

A minimum of anatomy will be reviewed to describe various syndromes as they occur in this approach to the subject. Short case histories will be utilized for illustration of important signs and symptoms.

COURSE 22

Room 750 Periods M-4, M-5

ROBERT W. HOLLENHORST, M.D.
Rochester, Minn.

Arterial Diseases as They Affect the Eye: Differential Diagnosis

A two-period course—$4.00

The first hour will be devoted to a general survey of the diagnosis and evaluation of hypertensive cardiovascular disease through study of the retinal arterioles and other retinal manifestations. Essential hypertension as well as the various secondary forms of hypertension will be discussed and correlated with clinicopathologic findings illustrated by kodachrome photographs.

During the second hour the discussions and illustrations will concern other forms of arterial and arteriolar involvement including spastic, embolic and thrombotic retinal arteriolar lesions, manifestations of diseases of the internal carotid artery, migraine, periarteritis nodosa, and temporal (cranial) arteritis.

COURSE 23

Room 736 Periods M-4, M-5, T-4, T-5, W-4, W-5, Th-4, Th-5

WENDELL L. HUGHES, M.D., et al.

Ophthalmic Plastic Surgery: Advanced

An eight-period course—$16.00

This course will be given for those who have had at least a moderate amount of experience in plastic work. It is recommended that the Fundamental Course in Ophthalmic Plastic Surgery be taken before considering this course (see Callahan et al., Course 12).

M-4—Conjunctival Surgery
Deane C. Hartman, M.D.
Los Angeles

Discussion of conjunctival grafts for burns, tumors, severe and recurrent pterygium. Methods of conjunctival replacement with mucous membrane grafts in fornix reconstruction, symblepharon, trachoma, xerosis and pemphigus.

M-5—Ectropion, Entropion and Trichiasis

Wendell L. Hughes, M.D.
New York

The surgical management of various types of ectropion and entropion will be discussed as well as the treatment of the various degrees of trichiasis.

T-4—Fractures: Late Repair and Orbitotomy

Byron Smith, M.D.
New York

The mechanism of fractures of the orbit will be correlated with the signs and symptoms diagnostic of the condition.

An outline of the advocated procedures will be discussed in detail, Reduction of early fractures will be demonstrated by a motion picture. The sequence and technique of late fracture treatment will be outlined. The technique of exploratory and therapeutic lateral orbitotomy will be included in the presentation.

T-5—Lacrimal Apparatus
Wendell L. Hughes, M.D.

Abnormalities of the function of the lacrimal gland, puncta, canaliculi, sac, and nasolacrimal duct will be taken up.

W-4—Congenital Anomalies and Ptosis
Crowell Beard, M.D.
San Jose, Calif.

This discussion will include such congenital anomalies as coloboma of the lid, epicanthus, blephophimosis, congenital entropion, epiblepharon and ptosis. Techniques for their surgical correction will be outlined and illustrated by means of kodachrome slides and motion pictures.

W-5—Lid Reconstruction and Canthoplasty

Edmund B. Spaeth, M.D.
Philadelphia

The first portion of this hour is planned to cover major lid reconstructions, both the upper and the lower lid, whether singly or jointly involved. There are two basic subdivisions related to lid reconstructions: (a) the presence of and (b) the absence of an intact functioning eyeball. The causes for the basic defect are usually the result of traumatism or because of a malignant lesion of a lid or of the orbit.

During the second part of the hour lateral and medial angle canthal defects will be discussed. These are largely congenital in origin; though there are many canthal angle defects, especially of the medial canthal angle, related to trauma. Malignant lesions of the lacrimal sac, when surgically treated, often result in medial canthal angle plastic defects which need correction through plastic surgery.

Th-4—Enucleation, Evisceration and Exenteration
M. Noel Stow, M.D.
Washington, D. C.

Surgical procedures will be discussed for correction of the postoperative plastic defects in these conditions, which frequently assume the significance of primary conditions. Exenteration of the orbit will be presented in detail by use of a motion picture.

Th-5—Panel Discussion

This hour is reserved for discussion of problems and questions brought up by those taking the course. Questions may be directed to members of the panel.

COURSE 24

Room 750 Periods Th-4, Th-5, Th-6

CHARLES E. ILIFF, M.D.
Baltimore

CARL CORDES JOHNSON, M.D.
Boston

JACK S. CRAWFORD, M.D.
Toronto, Ont., Canada

ROBERT SCHIMEK, M.D.
New Orleans

Ptosis

A three-period course—$6.00

1. Anatomy of the lids
2. Types of ptosis
3. Operative correction: levator surgery; frontalis surgery; superior rectus surgery
4. Complications

COURSE 25

Room 727 Periods W-4, W-5

FRITZ JARDON
Detroit
BY INVITATION

HUGH LAUBHEIMER
Ft. Lauderdale, Fla.
BY INVITATION

Fitting Ocular Prostheses

A two-period course—$4.00

This course will cover all aspects of techniques for fitting prostheses in enucleations, eviscerations and Burch eviscerations. Doctors are invited to bring their real problem cases for practical demonstrations. This should be of special interest to those doctors in the field who do their own fitting.

An extended question and answer period will follow.

COURSE 26

Room 724 Periods M-4, M-5

LESTER T. JONES, M.D.
Portland, Ore.

Lacrimal Drainage Apparatus

A two-period course—$4.00

In the first period the anatomy and physiology of the lacrimal system will be reviewed and some newer concepts will be presented. Hypersecretion, hyposecretion, epiphora and congenital anomalies will be discussed together with their treatment.

During the second period the surgical procedures recommended for obstructions found in various parts of the excretory system will be considered. The following procedures will be included:

1. Slitting the canaliculi
2. Canaliculodacryocystostomy
3. Canaliculorhinostomy
4. Conjunctivodacryocystostomy
5. Conjunctivorhinostomy
6. Dacryocystorhinostomy
7. Repair of medial canthal injuries

COURSE 27

Room 710 Periods M-4, M-5, M-6, T-4, T-5, T-6, W-4, W-5, W-6

WILLIS S. KNIGHTON, M.D., et al.

Practical Essentials of Glaucoma

A nine-period course—$18.00

A practical course in glaucoma designed to familiarize the student with present-day thinking regarding classification, diagnosis and treatment. The practical application of modern concepts and methods of examination and treatment will be emphasized.

M-4—Introduction
Willis S. Knighton, M.D.
New York

M-5—Chronic Simple Glaucoma
Joseph S. Haas, M.D.
Chicago

M-6—Narrow Angle Glaucoma
Paul A. Chandler, M.D.
Boston

T-4—Gonioscopy
Robert N. Shaffer, M.D.
San Francisco

T-5—Tonography
Andrew de Roetth, Jr., M.D.
New York

T-6—Medical Treatment
Irving H. Leopold, M.D.
Philadelphia

W-4—Secondary Glaucoma
Joseph A. C. Wadsworth, M.D.
New York

W-5—Surgery
John M. McLean, M.D.
New York

W-6—Congenital Glaucoma
A. Edward Maumenee, M.D.
Baltimore

COURSE 28

Room 777 Periods Th-4, Th-5, Th-6

PLACIDUS J. LEINFELDER, M.D.
Iowa City
GEORGE BOUNDS, M.D.
Nashville, Tenn.
ROBERT HOLLENHORST, M.D.
Rochester, Minn.

Diagnostic Aids in Neuro-Ophthalmology

A three-period course—$6.00

A consideration of the various neurologic and ophthalmologic techniques that are available to facilitate neuro-ophthalmic diagnosis. This will include a critical analysis of the use of perimetry, visual acuity, ocular rotations, pupillary studies, and ophthalmoscopy, and utilization of the neurologist and neurosurgeon in performing cerebrospinal fluid examination, ventriculography, pneumoencephalography and roentgenography with angiography. A discussion of the clinical application of these examinations to the neuro-ophthalmic syndromes will conclude the course.

COURSE 29

Room 706 Period M-5, M-6

ALBERT N. LEMOINE, JR., M.D.
JAMES T. ROBISON, M.D.
LARRY L. CALKINS, M.D.
Kansas City, Mo.

Fundus Lesions: Differential Diagnosis

A two-period course—$4.00

Kodachrome fundus photographs will be presented with discussion of the significant points in the differential diagnosis of the various types of fundus disease. Photomicrographs demonstrating the pathologic processes that produce the fundus picture will be shown. The correlation between the anatomic changes and fundus appearance will be discussed in detail.

COURSE 30

Room 706 Period W-5, W-6

ARTHUR LINKSZ, M.D.
New York

Physiology of Vision

A two-period course—$4.00

Some problems of clinical visual physiology will be discussed informally, with demonstrations. Questions put by the audience will be encouraged. Suggested topics include tests for color vision in the office; office tests for binocular vision and space perception; office tests for ocular motility and their physiologic bases; elementary clinical geometric optics (choice of bifocals, use of prisms, base curves, size lenses); principles of quantitative perimetry and scotometry (with special reference to the Goldmann perimeter); dark adaptation. As many of these topics as possible, or even entirely different topics, could be discussed, depending on the wishes of the audience.

COURSE 31

Rooms 788 & 789 Periods M-4, M-5, M-6, T-4, T-5, T-6, W-4, W-5, W-6

ROBERT J. MASTERS, M.D.
Indianapolis
HARVEY E. THORPE, M.D.
Pittsburgh
ALEXANDER A. KRIEGER, M.D.
Pittsburgh
JOHN MELVIN MASTERS, M.D.
Indianapolis
SAMUEL N. KEY, M.D.
Austin, Texas
FRED M. WILSON, M.D.
Indianapolis

Slit Lamp Biomicroscopy: Fundamentals

A nine-period course—$18.00

This course is especially planned for ophthalmologists who have not had the opportunity to learn how to use the slit lamp biomicroscope. The illustrated lectures have been shortened as much as seems commensurate with adequate elementary didactic instruction, in order to provide ample time for actual work with several types of biomicroscopes in the laboratory. If any registrant is especially interested in learning to use a particular kind of biomicroscope, he will be given this opportunity with the help of our instructors. During the many years since our group first began to present our Academy course in biomicroscopy, we have sometimes been disturbed by the thought that some of our inexperienced registrants were failing to learn as much as we wanted them to, because they were embarrassed in the presence of other class members who were more experienced. We have therefore set up this elementary course for those who want to start at the beginning and to enjoy the satisfaction of rapidly learning to use this indispensable instrument.

COURSE 32

Room 762 Periods M-5, M-6, T-5, T-6

JOHN M. McLEAN, M.D.
New York
JACK GUYTON, M.D.
Detroit
A. EDWARD MAUMENEE, M.D.
Baltimore

Practical Factors in Eye Surgery

A four-period course—$8.00

Each of the instructors will speak for one hour on practical points in surgery which he has found useful in his own hands and in teaching residents. They will also present lantern slides and motion pictures. While one instructor is speaking, the other will be present to give running comments on the speaker's ideas. The remaining time will be devoted to summary and consideration of points brought up by the class for specific discussion.

COURSE 33

Room 712 Periods M-4, M-5, M-6

CARROLL R. MULLEN, M.D.
CHARLES G. STEINMETZ, III, M.D.
GERARD M. SHANNON, M.D.
SAMUEL BLANK, M.D.
BY INVITATION
Philadelphia

Ocular Emergencies

A three-period course—$6.00

Anesthesia and its problems, injuries to the lids and the globe, and other problems associated with the emergency care of eye conditions will be presented. Indication and contraindication to local and general anesthesia will be treated from the standpoint of risks encountered in specific ophthalmic emergencies, such as trauma, foreign bodies, acute glaucoma, corneal transplant operations, including management of patients having associated cerebral injury. Preparation and premedication for local and general anesthesia will be considered. Choice of anesthetic in children as well as adults and postanesthetic and postoperative management will be discussed.

The discussion will include diagnosis and treatment of penetrating wounds and lacerations of the globe. The problem of intraocular foreign body care will be dealt with, as well as contusions of the globe with complications of hyphema, hemophthalmos, posterior rupture and anterior rupture of the globe. Treatment of chemical burns, thermal burns, and burns due to irradiation will be considered. Burns from ultraviolet, infrared, roentgen rays, beta rays, ultrasonic and radar, and special industrial and scientific hazards, such as the beam from the cyclotron, will be included.

Plastic surgery approach will include two methods for repair of lid lacerations. Injuries to the lacrimal system and the repair of lacerations involving either canthus will be discussed. Repair of eyelid injuries where loss of tissue has resulted will be presented.

COURSE 34

Room 716 Periods W-5, W-6
Th-5, Th-6

MARSHALL M. PARKS, M.D.
DAN G. ALBERT, M.D.
Washington, D. C.

Eso-Deviations

A four-period course—$8.00

The two principal causes of nonparalytic esophoria and esotropia are (1) accommodative convergence and (2) tonic convergence. The objective of this course is to develop a method by which each of these causative factors can be recognized and treated. Illustrative cases of various types of such deviations will be used in order to make the material presented as practical as possible for the practicing ophthalmologist.

The following topics will be discussed:

1. Horizontal vergences
   a. Accommodative convergence
   b. Tonic convergence
   c. Fusional convergence
   d. Fusional divergence
2. Diagnosis and treatment of accommodative esotropia
3. Diagnosis and treatment of nonaccommodative esotropia
4. The special problem of small angle esotropia

COURSE 35

Room 732 Periods M-4, M-5, T-4, T-5

DOHRMANN K. PISCHEL, M.D.
San Francisco

JOSEPH A. C. WADSWORTH, M.D.
New York

BAYARD H. COLYEAR, JR., M.D.
San Francisco

Retinal Detachment

A four-period course—$8.00

The pathologic anatomy of retinal detachment will be presented and the relation of these factors to the clinical development of the disease will be shown. Aids in diagnosis and differential diagnosis will be described. Surgical procedures, including diathermy and the various types of scleral resections, will be discussed.

COURSE 36

Room 731 Periods T-4, T-5

ADOLPH POSNER, M.D.
GEORGE GORIN, M.D.
New York

Office Gonioscopy

A two-period course—$4.00

The course is intended as a practical introduction to the routine use of gonioscopy. The first period will be devoted to a gonioscopic description of the normal angle and to a survey of those pathologic conditions in which gonioscopy is of value. A simple gonioscopic classification of glaucoma, illustrated with lantern slides, will be presented.

During the second period the technique and equipment will be discussed and ample time will be allowed for a free discussion of problems connected with gonioscopy.

COURSE 37

Room 778 Periods W-5, W-6

LELAND H. PREWITT, M.D.
Ottumwa, Iowa

Diagnosis and Treatment of Ocular Allergy

A two-period course—$4.00

1. Enzymatic concept of allergy utilized in diagnosis and therapy.
2. Careful detailed allergic history should be taken from infancy to present illness.
3. Skin tests and cytology will be demonstrated.
4. Treatment consists of an elimination program and desensitization.
5. Dosage is established by (a) titration method, and (b) severity of patient's symptoms.
6. Running history is most important: re-evaluate the elimination program, psychotherapy and dosage. Each case must be properly evaluated continuously as modern day therapy may aggravate rather than resolve your problem.
7. Colored slides will illustrate cases of extraocular and intraocular allergy.

COURSE 38

Room 705 Periods M-4, M-5, T-4, T-5

CHARLES D. J. REGAN, M.D.
Boston
PAUL BOEDER, Ph.D.
Iowa City

Refraction: Basic Optics and Clinical Techniques

A four-period course—$8.00

This course will correlate the principles of simple optics with the measurement of refractive errors and prescription of correcting lenses.

After a review of the optical properties of lenses and of image formation by the eye, an effective method of measuring errors of refraction with astigmatic dials will be demonstrated, using members of the class as patients.

The final prescription of lenses will be discussed with particular reference to multifocal elements, prismatic effects, and anisometropia.

COURSE 39

Room 786 Periods M-4, M-5

ELLEN F. REGAN, M.D.
New York

Cataract Surgery: Complications Due to Defective Wound Healing

A two-period course—$4.00

Delayed restoration of the anterior chamber, late fistulization, epithelization of the anterior chamber and secondary glaucoma are complications of cataract surgery which may be attributed to faulty healing of the cataract incision. The clinical and pathologic aspects of these conditions will be discussed. Emphasis will be placed upon the prevention and treatment of these conditions.

COURSE 40

Room 778 Period Th-4, Th-5

A. BENEDICT RIZZUTI, M.D.
Brooklyn

Tumors of the Lids and Ocular Adnexa

A two-period course—$4.00

COURSE 41

Room 726 Periods M-4, M-5

R. WINSTON ROBERTS, M.D.
Winston-Salem, N. C.

Glaucoma: Early Diagnosis

A two-period course—$4.00

Success in treating glaucoma has proved to be much greater when therapy is begun early in the course of the disease. Screening techniques for early detection of glaucoma cases will be described. Detailed study of suspected cases will be discussed, including the use of modern techniques of tonometry, visual field testing, and especially tonography, provocative testing with tonography, and gonioscopic technique and interpretation. Findings used in a diagnosis and proper classification of very early glaucoma will be reviewed.

COURSE 42

Room 724 Periods W-4, W-5

DANIEL M. ROLETT, M.D.
New York

Gonioscopy: Practical Application

A two-period course—$4.00

This course is designed for ophthalmologists familiar with gonioscopy. The use of gonioscopy will be described, first in the diagnosis of primary and secondary glaucomas; second, in the choice of medical and surgical therapy; third, in the evaluation of surgical results. Particular emphasis will be given to the use of gonioscopy in the operating room.

COURSE 43

Room 743 Periods M-4, M-5, T-4, T-5

HUNTER H. ROMAINE, M.D.
New York

Ocular Motility Surgery

A four-period course—$8.00

Surgery of the ocular motor system will be considered from several aspects:

1. The relationship of the preoperative diagnosis and of the preoperative care

to the surgical procedure to be undertaken

2. Types of surgical procedures, techniques used in these procedures, and instruments and suture material used in these procedures

3. The horizontal surgical procedures and their relation to existing conditions and to purely vertical muscular anomalies, as well as to combinations of these groups

4. The complications that occur, the handling of these complications, and ways and means to obviate complications

The course will be illustrated by various motion pictures of surgical procedures.

COURSE 44

Room 740 Periods M-6, T-6, W-6

HUNTER H. ROMAINE, M.D.
New York

Difficult Problems in Refraction and Their Treatment

A three-period course—$6.00

A general review of the important problems related to refraction, including a review of the major refractive classifications, will be undertaken at the outset of this course. Following this, a thorough study of the unusual problems encountered in diseases such as aphakia, anisometropia, and amblyopia will be presented. The refractive sensitivity of an individual and its bearing on the correction prescribed, the methods used in prismatic correction in lenses, and the use of specialized lenses will be discussed. The significance of dominance and its relation to refraction will also be included in the lecture. The course is intended to be a general review of problems in refraction, including special attention to unusual problems.

COURSE 45

Room 796 Periods M-4, M-5, M-6, T-4, T-5, T-6, W-4, W-5, W-6, Th-4, Th-5, Th-6

CHARLES L. SCHEPENS, M.D.
Boston

ICHIRO D. OKAMURA, M.D.
Boston

EDWARD W. D. NORTON, M.D.
Miami

L. HARRELL PIERCE, M.D.
Baltimore

Retinal Detachment

A twelve-period course—$24.00

Symptoms of retinal detachment and methods of treatment will be discussed, with special emphasis on slit lamp examination of the deep vitreous, indirect ophthalmoscopy, and scleral pressure. These methods should help to resolve difficulties in making accurate diagnoses and prognoses. Problems related to subclinical retinal detachment will be covered. The rationale and technique of retinopexy, of lamellar scleral resection and of scleral buckling will be compared. A discussion of technical difficulties will follow with special emphasis on reoperations. Complications encountered and results obtained will be presented.

COURSE 46

Room 732 Periods W-4, W-5

ROBERT A. SCHIMEK, M.D.
New Orleans

FRANKLYN P. BOUSQUET, JR., M.D.
Savannah, Ga.

Clinical Gonioscopy and Tonography

A two-period course—$4.00

1. Demonstration of Techniques
Human subjects will be utilized for demonstration of gonioscopy and tonography. Their aqueous-outflow constants will be determined. Members of the group may use each of the various gonioprisms with the slit lamp and the goniolens with the gonioscope on human subjects.

2. Clinical Applications
Landmarks of normal and abnormal angles as they actually appear during gonioscopy will be shown by means of steroscopic slides.

The theory and practical applications of tonography will be presented. Emphasis will be placed on correlation of gonioscopic and tonographic findings in determining diagnosis, treatment, and prognosis of various types of glaucoma in a series of patients.

COURSE 47

Room 724 Periods Th-4, Th-5

THEODORE F. SCHLAEGEL, JR., M.D.
Indianapolis
LOUIS N. HUNGERFORD, JR., M.D.
Seattle
Uveitis

A two-period course—$4.00

Since uveitis should be classified as granulomatous or nongranulomatous as the first step in the process of diagnosis and therapy, this division will be followed in our discussion. The methods of making this classification and of making an etiologic diagnosis based on clinical and laboratory features and the essentials of treatment will be detailed.

COURSE 48

Room 744 Periods T-4, T-5

G. VICTOR SIMPSON, M.D.
FRANK D. COSTENBADER, M.D.
Washington, D. C.

Probing of the Nasolacrimal Duct in the Infant and Adult: Indications and Technique

A two-period course—$4.00

The aim of this course is to review the developmental and adult anatomy of the nasolacrimal apparatus, and to discuss the course and management of nasolacrimal obstruction in the infant and adult. Especial emphasis will be placed on the technique of probing.

The subject will be discussed under the following headings:

1. Function of tears
2. Symptoms and clinical course of inadequate drainage
3. Tests for patency
4. Developmental and adult anatomy
5. Frequency and position of strictures
6. Technique of probing in the infant and in the adult (illustrated by motion pictures).

ALBERT E. SLOANE, M.D.
Boston
BERNARD C. GETTES, M.D.
Philadelphia

Refraction

The following three courses dealing with Refraction, Course 49, Course 50, and Course 51, will be under the direction of Albert E. Sloane, M.D. They may be purchased jointly or separately as your schedule permits.

COURSE 49

Room 734 Periods T-4, T-5

School Vision Testing: Program, Problems and Methods
Albert E. Sloane, M.D.

A two-period course—$4.00

This course will provide the ophthalmologist with background for this important phase of public health work. In recent years increasing emphasis is being placed on such programs throughout the country, and the eye doctor is more often asked to act either in an advisory capacity or in the actual setting up of such procedures. Various methods of testing will be demonstrated and their present relative merits discussed. Other important problems involved in such programs will be discussed.

COURSE 50

Room 734 Periods T-6, W-4

Telescopic Lenses and Other Aids for Subnormal Vision
Albert E. Sloane, M.D.

A two-period course—$4.00

In this course the ophthalmologist will be given an appreciation of the value and limitations of telescopic lenses and simple methods of testing their usefulness. Techniques for utilizing the various types

of lenses now available will be demonstrated. Many other aids for increasing the size of the retinal image are available, easily fitted, and quite inexpensive. These will also be presented with relation to their clinical application.

COURSE 51

Room 734 Periods W-5, W-6

Bernard C. Gettes, M.D.

A two-period course—$4.00

A. Criteria for Prescription of Prisms in Ophthalmic Practice

A working formula for guidance in prescribing prisms will be presented. The standard textbook can only generalize regarding this phase of treatment, since all cases must be considered individually. Nevertheless, some system of guidance is desirable and helpful even though subject to error. Our classification of heterophorias will indicate in which cases prisms should be prescribed and how the strength of the prism may be determined.

B. Drugs Used in Refraction

The place of cycloplegia in refraction has always been a controversial subject. Its advantages and shortcomings will be presented with indications and contraindications for its use. The relative merits of the several cycloplegics and the best methods for their administration will be considered. Miotics will be discussed, and their effect in accommodative strabismus will be considered.

COURSE 52

Room 715 Periods M-5, M-6

M. NOEL STOW, M.D.
L. CONNER MOSS, M.D.
Washington, D. C.

Diagnostic and Therapeutic Office Procedures

A two-period course—$4.00

Pathologic conditions requiring medical or surgical treatment which are encountered in office or clinic practice will be discussed. They are neither rare nor routine, but their early detection or effective management may present some difficulty.

During the first hour, practical study will be made of such problems as ophthalmic pain, detection of holes in the retina prior to detachment (direct ophthalmoscopy), herpes zoster, persistent twitching of the orbicularis, and daily use of mydriatics in cases of early cataract.

Included in the second hour will be discussion of the surgical treatment of chalazia, xanthelasmas, hemangiomas, papillomas, dyskeratoses, melanomas, and basal cell and squamous cell carcinomas.

Kodachrome slides will be used for illustration.

COURSE 53

Room 754 Periods M-4, M-5, M-6, T-4, T-5, T-6, W-4, W-5 W-6, Th-4, Th-5, Th-6

GEORGIANA D. THEOBALD, M.D., et al.
Histopathology

A twelve-period course—$24.00

The teaching will be by lecture, microprojection and microscope. It is recommended that the student review the normal histology of the eye before attending this course.

The Cornea

Frederick C. Blodi, M.D.
Iowa City

The normal histology will be reviewed. The anatomical picture will be correlated with the slit lamp examination of the cornea. The problem of corneal transparency will be discussed from an anatomical, chemical and physical point of view.

The general pathology of the cornea will be discussed in the following order: corneal edema, vascularization, keratitis, wound healing, epithelial changes and changes in Descemet's membrane and on the posterior corneal surface.

The specific pathology will include a discussion of suppurative and nonsuppurative keratitis, senile changes, corneal degenerations, and pigmentations.

Pathogenesis of Some Intraocular Surgical Complications

Leonard Christensen, M.D.
Portland, Ore.

This presentation is concerned with the tissue alterations, pathogenesis and sequelae of the more common complications in intraocular surgery. The lectures will be illustrated with photomicrographs.

Pathology of the Optic Nerve

Windsor S. Davies, M.D.
Detroit

A classification of the pathologic changes as observed in the optic nerve will be presented. Various lesions will be demonstrated by lantern slides. A correlation will be made between clinical and pathologic findings.

Tumors of the Orbit

Arnold W. Forrest, M.D.
White Plains, N. Y.

There will be a discussion of the pathologic characteristics of orbital tumors and the clinical conditions which result from them. The seven most common types, which comprise 75 per cent of primary orbital tumors, will be studied in detail. Sections will be provided for microscopic examination.

The Retinopathies

William C. Frayer, M.D.
Philadelphia

The discussion will deal primarily with the histologic changes produced in the choroid and retina by hypertension, diabetes and arteriosclerosis. Particular emphasis will be given to the underlying anatomic and physiologic vascular disturbances. Histologic features of the retinopathies will be correlated with their clinical appearance and will be illustrated by lantern slides and microscopic sections.

Pathology of the Lens

Michael J. Hogan, M.D.
San Francisco

The purpose of this lecture will be to present the normal histology of the lens and the etiology and pathogeny of cataractous changes. The histopathology will be described in detail, including changes in the capsule, lens epithelium, and lens fibers. Senile cataract in its various manifestations will be discussed from a clinical and pathologic standpoint. Cataracta complicata of the posterior and anterior types will be demonstrated. Diabetic and metabolic cataracts will be discussed.

Pathology of Glaucoma

A. Ray Irvine, Jr., M.D.
Los Angeles

The instruction on glaucoma will include the pathologic changes found in open and in closed angle glaucoma. The usual causes of secondary glaucoma, such as occlusion of the central retinal vein, lens changes, and neoplasms of the anterior segment, will be discussed. The effect of increased intraocular pressure upon each part of the eye, such as destruction of the corneal endothelium with subsequent bullous keratopathy and necrosis of the iris with atrophy, will be included. There will be illustrative photomicrographs shown and actual slides of primary glaucoma will be presented.

Tumors of the Uvea

John S. McGavic, M.D.
Bryn Mawr, Pa.

All of the tumors involving the uveal tract will be discussed and illustrated. Both primary and secondary tumors will be included. Most of the time will be devoted to benign and malignant melanomas, as they are the most common. Nevi, neurofibromas, hemangiomas, leiomyomas, xanthoendotheliomas, lymphomas and various metastatic tumors will be presented. Microscopic sections will be available for study as well as for projection.

Tumors of the Retina

Edith Parkhill, M.D.
Rochester, Minn.

BY INVITATION

The gross and microscopic pathology of retinoblastoma will be presented with the aid of lantern slides. Factors in etiology and prognosis will be considered; when the cases are classified according to certain factors in the history and microscopic findings, it is found that the survival rate in one group is almost 100 per cent.

Cells Found in Inflammatory Lesions

Georgiana D. Theobald, M.D.
Oak Park, Ill.

Cytology, pathology and sequelae of ocular inflammations will be discussed.

Granulomatous Infections of the Eye

Lorenz Zimmerman, M.D.
Washington, D. C.

Among the many different causes of "granulomatous inflammation" involving ocular tissues are infectious agents which may be demonstrated histologically within the eye. These include nematode larvae, Toxoplasma, tubercle bacilli, leprosy bacilli, Treponema, inclusion bodies, and fungi such as Blastomyces and Cryptococcus. None of these are demonstrated with ease since a prolonged search of serial sections is necessary in some cases and special staining techniques are required in others.

"Granulomatous inflammation" is a term preferred to "granulomatous uveitis" since in many of these infections the process is neither primarily nor predominantly uveal. Sympathetic ophthalmia is the only type of granulomatous inflammation that is a true uveitis.

Nongranulomatous Infections of the Eye

Lorenz Zimmerman, M.D.

Eyes are seldom enucleated during the active phases of nongranulomatous uveitis. The pathologist, therefore, rarely has an opportunity to study the initial changes which take place in the tissues in nongranulomatous uveitis. By the time eyes are enucleated, there are usually complicated features which tend to obscure the basic tissue reaction. In those cases in which active inflammation is still present, the uveal reaction in some cases is predominantly lymphocytic, and in these cases there may be conspicuous nodular aggregations of lymphocytes. In others there is a more diffuse plasma cell reaction and in these, one frequently observes many Russell bodies. Because plasmacytosis has been correlated with antibody production, it is possible that the dense infiltration of plasma cells indicates active antibody formation in the affected uveal tissue.

Nongranulomatous uveitis may involve primarily the anterior segment in which case the formation of anterior and posterior synechias, occlusion and seclusion of the pupil, iris bombe, secondary glaucoma, and complicating cataract are frequently observed sequelae by the time the eye comes to enucleation. In those cases involving the posterior segment, retinal degeneration and proliferation of the pigment epithelium are frequently observed. Alterations in the vitreous are also seen.

COURSE 54

Room 793 Periods W-4, W-5

HARVEY E. THORPE, M.D.
Pittsburgh

Intraocular Foreign Bodies

A two-period course—$4.00

A comprehensive survey of established and newly developed techniques for the removal of foreign bodies from the eyeball will be presented.

Magnetic and nonmagnetic intraocular foreign bodies create special surgical problems. Accurate determination of functional and anatomic damage is important. Methods for evaluation of extent of trauma to ocular tissues and of impairment of vision will be analyzed.

Location of foreign bodies by roentgenograms must be accurate for successful operation. The electroinductive locator is a distinct help in foreign body localization both before and during operation. These methods of localization will be elaborated in this course.

The surgical technique for removal of foreign bodies must be properly planned from incision to closure. Techniques for removal of foreign bodies from the anterior chamber, iris, lens, ciliary body, vitreous, and retina will be reviewed.

There will be a discussion of the management of associated complications, such as laceration, uveal and vitreous prolapse, traumatic cataract, retinal detachment and infection. A review of preoperative and postoperative care will be included.

COURSE 55

Rooms 788 & 789 Periods Th-4, Th-5, Th-6

HARVEY E. THORPE, M.D.
Pittsburgh
ROBERT J. MASTERS, M.D.
Indianapolis
ALEXANDER A. KRIEGER, M.D.
Pittsburgh
JOHN MELVIN MASTERS, M.D.
Indianapolis
FRED M. WILSON, M.D.
Carmel, Ind.

Advances in Slit Lamp Biomicroscopy, and Applanation Tonometry

A three-period course—$6.00

This advanced course in recent developments in slit lamp biomicroscopy will cover:

1. Use of Hruby lens
2. Use of flat contact lens for slit lamp ophthalmoscopy
3. Slit lamp ophthalmoscopy and cycloscopy with 4-mirror gonioprism, also Goldmann 3-mirror lens
4. Applanation tonometry

These illustrated lectures will be fairly comprehensive. They will cover the new techniques in cycloscopy, the study of the equatorial region of the crystalline lens, the examination of the extreme retinal and vitreous periphery, and the technique of applanation tonometry. The study of the posterior vitreous and retina with the Hruby lens, with the contact lens, as well as with the gonioprism, and biomicroscope will be included in this course.

The first two periods of the course will be devoted to illustrated lectures and discussion. The last period will be spent in the demonstration room, where the students will be afforded practice with the new instruments utilized in making examinations of the lens periphery and posterior vitreous. Slit lamp ophthalmoscopy of the central and peripheral retina, which is a recent development, will be stressed; it is especially valuable in finding vitreous bands and peripheral retinal tears, as well as in the differential diagnosis of retinal pathologic changes.

The technique of applanation tonometry with Professor Goldmann's attachment to the slit lamp will be discussed and demonstrated. This is a new development in tonometry which obviates some errors introduced by the factor of scleral rigidity.

COURSE 56

Room 793 Periods M-4, M-5, M-6
T-4, T-5, T-6

HARVEY E. THORPE, M.D.
Pittsburgh
and
LEE ALLEN
Iowa City
BY INVITATION

Slit Lamp Gonioscopy

A six-period course—$12.00

Slit lamp gonioscopy is essentially a major subdivision of biomicroscopy. This course, intended for the advanced student, will cover the subject of clinical gonioscopy. The original methods of gonioscopy will be covered in outline form. The newer methods of slit lamp gonioscopy employing contact prisms and reflecting contact lenses yield more information than methods not employing the slit lamp. They will be covered in detail.

The following subjects will be included in the discussion:

1. Angle microanatomy and some phases of angle development
2. Gonioscopic instrumentation
3. Correlation of the slit lamp gonioscopic view with histoanatomy
4. The normal angle
5. Congenital anomalies
6. Degenerative changes
7. Inflammatory diseases
8. Glaucoma and observations following operation for glaucoma
9. Cysts and tumors visible with the gonioscope
10. Observations following intraocular surgery
11. Trauma and foreign bodies of the angle

One period will be devoted to practical demonstration of gonioscopy with the slit lamp biomicroscope.

COURSE 57

Room 762 Periods W-5, W-6

C. DWIGHT TOWNES, M.D.
Louisville, Ky.

Cataract Surgery: Complications

A two-period course—$4.00

The first part of this course will be a discussion of the method of preoperative examination and preparation of the patient and a description of the techniques used in the operation for lens extraction which are calculated to minimize the occurrence of complications. The second part of the course will consist of discussion of the methods of treatment of complications, with special emphasis upon delayed re-formation, or late loss, of the anterior chamber with or without choroidal separation; postoperative uveitis; and secondary glaucoma.

COURSE 58

Room 728 Periods M-5, M-6, T-5, T-6, W-5, W-6, Th-5, Th-6

RICHARD C. TROUTMAN, M.D., et al.

Recent Advances in Ophthalmology

An eight-period course—$16.00

This course is designed to present to the practicing ophthalmologist a short review of developments during the past year in the areas discussed, with an evaluation of these developments at the clinical level. The Eye Clinics of the State University of New York are so organized as to have specialties within the specialty of ophthalmology under separate departmental chairmen. These chairmen will present their particular interests in critical review. The various lectures will include therapeutics relative to the subject. The course will be completed by a review of the histopathologic changes involved in the various conditions discussed, with special reference to new entities, and the relation of the disease to clinical practice. There will be a 10-minute question period at the end of each lecture during which free discussion will be encouraged. Visual aids will be used to illustrate many techniques and diseases.

M-5—Retinal Detachment

Morton Rosenthal, M.D.
Brooklyn

A discussion of the newer techniques in operations for retinal detachment will be given, and an evaluation of these techniques with special reference to the newer techniques of scleral shortening and vitreous transplantation will be made.

M-6—Strabismus

Abraham Schlossman, M.D.
New York

The newer concepts of strabismus surgery and diagnosis with reference to the use of orthoptics will be presented. The clinical applications of electromyography will be discussed.

T-5—Glaucoma and Perimetry

Seymour Goodstein, M.D.
Bayside, N. Y.

Methods of diagnosis and treatment of glaucoma will be discussed in the light of recent developments in the field, with special reference to the clinical application of new therapeutic agents such as Diamox and the use of tonography as a clinical instrument in the evaluation of glaucoma. Some reference will be made to perimetry and its application to diagnosis and treatment of glaucoma.

T-6—Lid and Plastic Surgery

Peter H. Ballen, M.D.
Hempstead, L. I., N. Y.

New developments in the field of lid and plastic surgery will be presented with special reference to treatment of chemical burns of the eye and certain newer reconstructive techniques for replacement of tissues following excision of tumor.

W-5—Pediatric Ophthalmology

Austin I. Fink, M.D.
Brooklyn

This new ophthalmologic specialty, which is rapidly developing, presents many interesting problems. Some new entities will be discussed. The author's method of handling pediatric patients will be presented.

W-6—Cornea and Lens

Richard C. Troutman, M.D.
New York

Diagnosis and medical and surgical therapy of diseases of the cornea and lens in the light of recent developments will be presented, with special reference to corneal and cataract surgery.

Th-5—Uveitis

Stanley Masters, M.D.
Roslyn, L. I., N. Y.

A discussion of uveitis, its diagnosis, treatment and the management of complications resulting therefrom will be presented, together with recent advances and their clinical application.

Th-6—Histopathology

Gerald B. Kara, M.D.
New York

A summary of histopathology in relation to clinical disease with special reference to the conditions discussed in previous lectures will be presented. Clinical applications will be stressed.

COURSE 59

Room 733 Periods T-5, T-6

RICHARD C. TROUTMAN, M.D.
New York

Enucleation Surgery: Complications and Their Management

A two-period course—$4.00

Interest in enucleation surgery has received impetus in recent years due to the development of new implants and prosthetic techniques. These materials and techniques have imposed problems which have not been seen in large numbers by the average ophthalmologist. The added interest in this problem has made it possible for some of us to see and treat enucleation complications. A summary of my experience in the field will be presented, with accompanying case presentations and a motion picture demonstration of operative repairs.

In addition, the newer methods of prosthetic fitting will be presented by Mr. Hugh Laubheimer, emphasizing the close cooperation that is now present and which is necessary for the proper care of the patient with an enucleated eye.

COURSE 60

Room 727 Periods M-4, M-5
T-4, T-5

MAYNARD C. WHEELER, M.D.
PHILIP KNAPP, M.D.
New York

Concomitant Strabismus: Diagnosis and Treatment

A four-period course—$8.00

The emphasis will be on the practical management of concomitant strabismus. The examination of the patient will be considered in detail. Nonsurgical treatment will be fully discussed. Indications and contraindications for orthoptic training will be stressed. Problems to be considered will include (1) the selection of patients with types of esotropia and exotropia amenable to operation, (2) the choice of muscles on which to operate, and (3) the decision regarding when to operate.

COURSE 61

Room 776 Periods M-4, M-5, M-6,
T-4, T-5, T-6, W-4,
W-5, W-6, Th-4

Home Study

A ten-period course—$20.00

These discussion periods will be based on lesson material in the Home Study Course in Ophthalmology and will be conducted by the Home Study Course faculty. They will provide a review of basic subjects and will present up-to-date clinical applications.

M-4—Embryology, Anatomy and Neuroanatomy

John Woodworth Henderson, M.D.
Ann Arbor, Mich.

M. Noel Stow, M. D.
Washington, D. C.

M-5—Physiology

Irving H. Leopold, M.D.
Philadelphia

Robison D. Harley, M.D.
Atlantic City

Hendrie W. Grant, M.D.
St. Paul, Minn.

M-6—Optics and Principles of Biomicroscopy

Bourne Jerome, M.D.
Minneapolis

Arthur Linksz, M.D.
New York

T-4—Refraction

Manuel L. Stillerman, M.D.
Chicago

Bernard C. Gettes, M.D.
Philadelphia

Frank W. Newell, M.D.
Chicago

T-5—Ocular Microbiology, External Diseases and Aseptic Technique

Henry F. Allen, M.D.
Boston

Samuel J. Kimura, M.D.
Berkeley, Calif.

James H. Allen, M.D.
New Orleans

T-6—Perimetry and Neuro-ophthalmology

Robert W. Hollenhorst, M.D.
Rochester, Minn.

Edward W. D. Norton, M.D.
New York

John P. Wendland, M.D.
Minneapolis

Placidus J. Leinfelder, M.D.
Iowa City

Cecil W. Lepard, M.D.
Detroit

W-4—Extraocular Muscles

Hunter H. Romaine, M.D.
New York

Hermann M. Burian, M.D.
Iowa City

Conrad Berens, M.D.
New York

W-5—Ophthalmoscopy and Medical Ophthalmology

William Banks Anderson, M.D.
Durham, N. C.

Frank C. Winter, M.D.
Menlo Park, Calif.

W-6—Pathology

John S. McGavic, M.D.
Bryn Mawr, Pa.

Joseph A. C. Wadsworth, M.D.
New York

Michael J. Hogan, M.D.
San Francisco

Georgiana D. Theobald, M.D.
Oak Park, Ill.

Th-4—Pharmacology and Therapeutics

Alfred J. Kreft, M.D.
Portland, Ore.

John E. Harris, M.D.
Portland, Ore.

Andrew de Roetth, Jr., M.D.
New York

INDIVIDUAL COURSES — OPHTHALMOLOGY

COURSE 101

Crystal Room — Period W-5

RUDOLF AEBLI, M.D.
New York

End Results of Muscle Surgery

The subject matter of this presentation will be a series of patients followed for a varying number of years, with an evaluation of the end results from a cosmetic and a functional viewpoint. Enthusiastic and excessive operation on the interni or the externi or the vertical muscles interferes with conjugate movements and with convergence and, too frequently, ends in disappointment in later years.

Adhesions, secondary contractures, muscle fibrosis and scar tissue formation are sequelae which produce unexpected and disappointing results and make subsequent corrective operations more difficult and uncertain.

Recession and resection operations are not simple innocuous procedures, especially on the obliques and the vertical recti. A careful dissection with retention of the muscle facial envelope, maintenance of a good dry field, avoidance of undue trauma to the muscle and the adjacent tissues, and good wound closure are essential to success. In general, excessive crippling of the function of any one muscle should be avoided and the operation should be spread over multiple muscles, thereby retaining good parallel and nonparallel ocular movements.

COURSE 102

Room 711 — Period M-5

C. KNIGHT ALDRICH, M.D.
Chicago
BY INVITATION

Emotional Problems of the Ophthalmologist's Patients

The hour will be devoted to a discussion of the causes, symptoms and appropriate treatment of emotional factors of patients seen by the ophthalmologist. The following specific subjects will be covered:

1. General symptomatic manifestations of emotional tension
2. Psychophysiological reactions and the eye
3. Visual hypochondriasis
4. Conversion reactions, such as hysterical blindness
5. The impact of organic disease of the eye
6. Signs of psychosis, with particular reference to visual hallucinations

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COURSE 103

Room 727 — Period M-6

HENRY F. ALLEN, M.D.
Boston

Aseptic Technique in Ophthalmology

Recent outbreaks of postoperative endophthalmitis in large hospitals, in addition to sporadic cases in smaller ones, show that the danger of surgical infection is ever present. Many substances and certain devices used for purposes of sterilization can actually serve as carriers of infection. Many new developments have occurred in the fields of air filtration, skin antisepsis, and individualization of solutions for use in the eye. Sterility surveys of operating suites and office treatment facilities are now considered essential. Knowledge of newer preventive measures may reveal unsuspected inadequacies and forestall serious complications which might otherwise beset the most conscientious surgeon.

COURSE 104

Room 711 — Period M-4 or T-4

MOACYR E. ALVARO, M.D.
Sao Paulo, Brazil

Uveitis: Etiology and Treatment

The main subject for discussion will be chronic endogenous uveitis. Topics for consideration will include the incidence of uveitis and its clinical diagnosis by modern methods of examination. The differential diagnosis of granulomatous

and nongranulomatous types of uveitis will be discussed with a consideration of the subjective and objective symptoms of each group. The difficulty of establishing an etiologic diagnosis will be elaborated, and the laboratory procedures and skin tests useful for this purpose will be described. Present-day knowledge of the pathogeny of the disease as a basis for treatment will be reviewed. A practical approach toward early treatment, etiologic diagnosis and final treatment of the true etiologic factors will be presented.

COURSE 105

Room 715 Period M-4

BENNETT Y. ALVIS, M.D.
St. Louis

Glaucoma Surgery: Long-Term End Results

This study will present the course of the diseases and end results in eyes that have been operated on for various types and stages of glaucoma. It will be based largely on experience with a considerable number of private patients whose cases were followed for varying lengths of time up to thirty or more years. Some comparisons will be made with eyes treated for similar periods by nonsurgical means.

COURSE 106

Room 744 Period T-6

MARIO AMENABAR, M.D.
Santiago, Chile

Retinal Detachment: Localization and Closure of Tears

COURSE 107

Room 715 Period T-4

JAMES M. ANDREW, M.D.
Columbus, Ohio

Eye Diseases in Children

This course will consist of the following material which is thought to be pertinent in the management of ocular problems in children: (1) a brief discussion of the preparation of the child and his parents for hospitalization for elective and emergency ocular care; (2) diagnosis and management of orbital dermoids, corneal and conjunctival dermoids and conjunctival dermolipoma; (3) pediatric anesthesia; (4) preoperative considerations; (5) methods and mode of anesthesia and anesthetic complications; (6) differential diagnosis of leukocoria; (7) differentiating retinoblastoma; (8) retinopathy of prematurity; (9) persistent hyperplastic vitreous; (10) congenital retinal septum; (11) inflammatory conditions; (12) retinal detachment, and (13) congenital cataracts.

This course is designed to cover problems of pediatric ophthalmology which are of importance in the average ophthalmic practice.

COURSE 108

Room 721 Period W-6

TAYLOR ASBURY, M.D.
Cincinnati

Practical Genetics in Everyday Office Practice

It is increasingly important that the clinician be aware of the practical importance of genetics in everyday practice. Much has been learned about the genetic background of many eye diseases. It is necessary to understand a few basic principles of genetics in order to be able to counsel patients in an intelligent way, but one need not be an expert geneticist.

This course approaches the subject in a simple way, beginning with the basic principles of dominant, recessive, and sex-linked inheritance. Practical advice for patients relative to specific diseases such as retinoblastoma, refractive errors, strabismus, retinitis pigmentosa, glaucoma, and cataract will also be discussed.

COURSE 109

Room 715 Period W-6

KARL W. ASCHER, M.D.
Cincinnati

Cyclodialysis

More and more recognition seems to be given to cyclodialysis as an efficient pro-

cedure for open angle glaucoma. The rationale, technique, and complications of this operation will be discussed and some improvements to avert, or to cope with, these complications will be described.

COURSE 110

Room 724 Period T-4

WALTER S. ATKINSON, M.D.
Watertown, N. Y.

Advances In Anesthesia

The preanesthetic preparation and improved anesthesia and akinesia that greatly decrease complications of intraocular surgery will be discussed.

COURSE 111

Room 715 Period W-4

ROBERT E. BANNON
Buffalo, N. Y.
BY INVITATION

Practical Aspects of Multifocal Corrections

This course will review briefly various measurements (amplitude of accommodation, dynamic cross cylinder test, and the method of limits) that are helpful in determining near point corrections. Clinical data supporting the practice of learning half the amplitude in reserve will be presented.

A procedure will be described for determining the proper add for unusual near distances when routine tests have measured the add necessary for a standard near test distance.

Once the amount of the add has been decided upon, it is necessary to select (or advise) the **form** of the lens correction. The factors which should influence a choice of separate near (single vision) glasses, fit-over lenses, bifocals or trifocals will be discussed.

Special attention will be given to the relative importance of image jump, object displacement, field of view with various segment sizes, segment decentration and ranges of clear vision with various adds.

COURSE 112

Room 712 Period T-5

ROBERT E. BANNON
Buffalo, N. Y.
BY INVITATION

Aniseikonia: Its Role in Refractive Problems

Every new correction of refractive errors changes the seeing conditions to which the patient has become accustomed. The magnitude of these changes and the patient's tolerances determine whether or not binocular vision will be comfortable and efficient. Aniseikonia (not equal images) is one condition which may arise. It is most frequently associated with the correction of unequal refractive errors, and in certain cases it can cause persistent discomfort.

A brief review of aniseikonia and space eikonometry will be followed by a discussion of various clues and procedures that are useful in detecting aniseikonia in routine office practice.

COURSE 113

Room 712 Period W-5

OWEN BELMONT, M.D.
Philadelphia

Refraction: Causes of Failure

Failure in refraction is defined as any instance in which a patient rejects his glasses. The most common reasons for such rejection will be analyzed. Case histories will be outlined to illustrate each type of failure. Secondary effects of lenses which change and distort the patient's orientation in his environment will be discussed. Ways of anticipating and minimizing these undesirable effects will be presented.

COURSE 114

Room 736 Period M-6

CONRAD BERENS, M.D.
New York

Cyclodiathermy, Cycloelectrolysis, Iridencleisis and Cyclodialysis

A statistical evaluation of the postoperative results and complications fol-

lowing penetrating and nonpenetrating cyclodiathermy, penetrating and nonpenetrating retrociliary diathermy, cycloelectrolysis and retrociliary cycloelectrolysis in over 1,700 eyes observed for one to fourteen years postoperatively will be discussed.

The postoperative results and complications following iridencleisis and cyclodialysis will be evaluated.

The indications, contraindications and techniques of these procedures will be described.

COURSE 115

Crystal Room Period T-5

CONRAD BERENS, M.D.
New York

Ophthalmic Surgery: Recent Trends

Presentation of a sound film showing the following surgical techniques:

1. Evisceration and enucleation, using hollow mesh-capped plastic implants
2. Lamellar keratoplasty
3. Retinal detachment surgery, utilizing special pins and the application of diathermy
   Scleral buckling in a case where the sclera was too thin and fibrotic for a scleral resection
4. Resection and advancement of the levator for ptosis
5. Tucking of the superior oblique muscle
6. Retroplacement of the superior oblique
7. Subconjunctival closure of cataract wound

COURSE 116

Room 722 Period W-5 or Th-4

RAYNOLD N. BERKE, M.D.
Hackensack, N. J.

Ptosis: Surgical Treatment

The surgical correction of ptosis may be effected by three types of operation, in which the frontalis, the superior rectus or the levator muscles, respectively, are used to support the lid. The advantages and disadvantages of each type of procedure will be illustrated by slides and a motion picture, with special emphasis on resection of the levator muscle through a skin incision.

COURSE 117

Room 711 Period Th-4

HAROLD M. BLOCK, M.D.
Dallas

Office Practice of Ophthalmology

In this course it is my intention to explain various types of office procedures for medical and surgical conditions, with the patients' reactions in mind, and in such a way as to have better patient-doctor relationships. Procedures learned in the clinics and hospitals will be explained from the viewpoint of their application in private practice. The course is especially designed for the young ophthalmologist.

COURSE 118

Room 710 Period Th-4

G. BONACCOLTO, M.D.
New York

Enucleation Techniques: Present Status

Following a brief description of several of the newer innovations in the enucleation technique, this course will include a discussion of the different types of implants in use today and their relative advantages and disadvantages on the basis of (1) technique of muscle attachment to implant; (2) durability; (3) complications during and after the operation. The lecture will be illustrated with slides and motion pictures in color.

COURSE 119

Room 777 Period M-4

WILLIAM F. BONNER, M.D.
New Orleans

Vascular Retinopathy: Differential Diagnosis

The lecture will include bibliographical reference to the early work of Cullen and of Keith and Wagener on hypertension and vascular changes in the retina. Ophthalmoscopic pictures of the four degrees of hypertensive retinitis presented before

the Academy in 1934 by Professor Hans Lauber will be discussed. Vascular changes due to such conditions as diabetes and the perimacular pigmentation of the Kuhnt-Junius syndrome will be considered.

COURSE 120

Room 721 Period Th-4

ARNOLD S. BREAKEY, M.D.
New York

Rehabilitation in Ophthalmology

This course will deal with the ocular manifestations of damage to the central nervous system in children, teen-agers and adults. The three groups are vastly different one from the other.

In **children** the problem is mainly one of oculomotor imbalance, especially esotropia, complicated by a high incidence of congenital anomalies. Gaze palsy, visual defects, ocular toxoplasmosis, ptosis, and nystagmus are frequently encountered. This group has a great ability to develop new pathways and recover their deficits. Generally accepted principles for ophthalmic care are not applicable to this group. The medical and surgical management will be stressed. Testing for perceptual defects will be discussed.

In **teen-agers** we see the results of childhood brain damage which has gone untreated. The incidence of subnormal vision is high. Exotropia predominates among motor imbalances. Field defects of the hemianoptic variety are frequently seen as well as perceptual defects. Cosmetic surgery is often beneficial.

In the **adult** group, central nervous system damage is most commonly due to cerebrovascular accidents and trauma. The resulting deficiencies are loss of visual field, accommodative insufficiency, ocular imbalance, diplopia, reading problems and optic atrophy. Since the ocular apparatus cannot be made to develop new central pathways by means of passive exercise, we must teach the patients to get along with "what is left." Rehabilitation from the ocular standpoint is most important to the "whole patient" because the handicapped person depends to an extra measure on his eyes. Appliances to facilitate this work will be exhibited. The problem of visual aphasia is a serious one. Its treatment will be discussed.

COURSE 121

Room 702 Period W-4

GOODWIN M. BREININ, M.D.
New York

Electromyography

The principles of electrophysiologic instrumentation as applied to electromyography of the extraocular muscles and to electro-oculography will be described, and the theory and application of these techniques discussed.

There will be a brief review of neuromuscular conduction. Illustrative slides and tracings will be shown of both normal and abnormal conditions involving ocular motility: comitant and paretic strabismus, ptosis, myopathies and nystagmus.

COURSE 122

Room 793 Period W-6

ALBERT L. BROWN, M.D.
Cincinnati

Fever Therapy in the Light of Recent Drugs, Especially Antibiotics and Corticosteroids

Occasionally a form of therapy effective for its time is replaced by newer methods, only to be reinstated later. Sulfonamides, antibiotics and, later, the corticosteroids were quickly admitted to ocular therapy. Their distinctive uses were gradually catalogued and found to have definite limits. These limitations left many conditions in which fever therapy was found to be the method of choice. Antibiotics were found to be of no use in many diseases of the cornea, iris, and uveal tract. Cortisone later was thought to be almost specific for nonspecific iritis and uveitis. It was then realized that many forms of these diseases, especially of posterior segment inflammations, did not yield to the corticosteroids. In the last ten years I have returned to the use of typhoid H antigen for many diseases of the cornea, uveal tract, retina, and optic nerve in which the newer drugs have failed.

COURSE 123

Room 738 Period M-6

JORGE N. BUXTON, M.D.
New York

Total and Partial Keratectomies

These procedures as employed in surgical removal of pterygiums, pseudopterygiums, and localized corneal scars, in preparations for corneal grafting, in symblepharon.

Techniques and instrumentation, with special reference to recurrences and/or lesions associated with limitations or rotation, buccal mucosal grafts, etc. Use of beta radiation in these conditions. Slides and film.

COURSE 124

Room 716 Period M-4 or T-4

F. PHINIZY CALHOUN, JR., M.D.
Atlanta

Epithelization of the Anterior Chamber: Diagnosis and Treatment

A review of the pathogenesis, incidence, and histopathology of this condition, with detailed discussion of the clinical manifestations and recent developments in diagnostic tests and methods of treatment.

COURSE 125

Room 750 Period M-6

FRANK D. CARROLL, M.D.
New York

Optic Nerve Lesions: Differential Diagnosis

Lesions of the optic nerve must be first differentiated from lesions caused by intracranial expanding lesions and disorders of the macula. Then an etiologic differential diagnosis of the optic nerve condition may be sought. This includes consideration of conditions which are inflammatory, degenerative, vascular, neoplastic, or toxic. An outline of the author's approach to this problem will be presented.

COURSE 126

Room 750 Period T-4 or W-4

J. V. CASSADY, M.D.
South Bend, Ind.

Dacryocystitis and Lacrimal Drainage

Consideration will be given to dacryocystitis, excessive lacrimation, and lacrimal duct obstruction in adults as well as in infants. Kodachrome illustrations of anatomy, embryology, and pathogenesis of lacrimal drainage problems will be shown. Clinical examination, diagnoses, and treatment will be discussed. Irrigation, probing, palliative treatment, and the use of polyethylene tubing will be considered. A film presenting the Dupuy-Dutemps method of dacryocystorhinostomy will be shown.

COURSE 127

Room 784 Period M-4

J. V. CASSADY, M.D.
South Bend, Ind.

Toxoplasmic Retinochoroiditis

The widespread prevalence of toxoplasmosis in man and animal has caused confusion as to its importance in the etiology of retinochoroiditis. The intelligent treatment of retinochoroiditis should be directed to its cause. Clinical, roentgenologic and serologic study of these patients is mandatory before embarking upon treatment with such dangerous drugs as pyrimethamine and sulfadiazine. Skin tests, blood studies, dye tests and a thorough understanding of the patient must precede therapy directed against toxoplasmosis.

COURSE 128

Room 744 Period M-6

RAMON CASTROVIEJO, M.D.
New York

Corneal Surgery: Techniques and Results

This course will deal with different types and techniques of keratectomies, keratoplasties and plastic repair of the conjunctiva with or without buccal mucous membrane graft, which may be required for rehabilitation in some complicated corneal operations.

The results will be evaluated in three groups: favorable, in which a high percentage of clear transplants (approximately 90 per cent) and considerable im-

provement of vision may be expected; partially favorable, in which approximately 50 per cent of the operations are successful; and unfavorable, which do not lend themselves to a successful keratoplasty.

COURSE 129

Room 734 Period M-4

WEBB P. CHAMBERLAIN, JR., M.D.
Cleveland

Vertical and Horizontal Components in Strabismus

The importance of the vertical rotators in relation to horizontal squint will be presented, with particular emphasis on the A and V syndromes in upward and downward gaze. The evidence suggesting that the horizontal recti are the primary causative factors will be considered along with the indications that the obliques or the vertical recti are of basic significance. The diagnosis and treatment of these symmetrical A and V syndromes will be contrasted with the conventional management of vertical and horizontal anomalies not associated with this type of horizontal incomitance in the straight up and straight down positions.

COURSE 130

Room 705 Period W-5

MAX CHAMLIN, M.D.
New York

Perimetry: Techniques for Detection of Minimal Defects

Techniques for the detection of minimal defects in visual fields caused by early lesions of visual pathways will be demonstrated. The mounting of test objects on permanent carriers, as well as care of these test objects, will be shown. The choice of test objects and methods of recording various field defects will also be demonstrated. Principles which apply to the tangent screen as well as to the perimeter will be presented, and the interpretation of minimal findings will be explained. Cases in which the use of the perimeter entirely supersedes the tangent screen, as well as the reverse, will be shown.

COURSE 131

Crystal Room Period M-4

PAUL A. CHANDLER, M.D.
Boston

Glaucoma Surgery

COURSE 132

Room 736 Period T-6

PAUL A. CHANDLER, M.D.
Boston

Cataract Surgery: Operative and Postoperative Complications

The principal complication occurring during cataract extraction is loss of vitreous. Steps to avoid loss of vitreous will be discussed. These include preoperative sedation and techniques in anesthesia and akinesia as well as technical aspects of the operation itself. Of the postoperative complications, glaucoma is among the most important. It may be due to vitreous loss, delayed re-formation of the anterior chamber, or incarceration of iris or lens capsule in the wound. Pupillary block is less common, but it is important that this cause be recognized. Emphasis will be placed on measures designed to prevent the complications which lead to glaucoma, and the treatment of glaucoma will be discussed from both the medical and the surgical standpoint.

COURSE 133

Room 705 Period M-6

MORTIMER R. CHOLST, M.D.
Neponsit, Queens, N. Y.

Central Fields: Methods and Techniques

Attention will be directed to patients with reduced corrected vision. Too often, pathologic changes are assumed to be the causative factor of the diminished vision and result in deferment of a central field recording.

The various methods and techniques presently employed in the mapping of central visual fields will be reviewed, and their respective limitations and advantages will be discussed. This discussion will include the tangent screen and cam-

pimeter, with additional reference to the procedures employed in stereocampimetry.

Recent methods wherein test objects are not employed, such as those utilizing the Amsler charts and Harrington multiple-pattern screening instrument, will also be demonstrated.

Problems of technique to be reviewed will include a means for rapid determination of the patient's comprehension and ability to maintain satisfactory fixation, so vital to accurate visual fields.

A practical routine for evaluation of the central field in an eye with reduced corrected vision will be presented.

COURSE 134

Room 716 Period M-6

EDITH COHOE
Detroit
BY INVITATION

Special Reading Instruction For The Partially Seeing

The course will include discussion of the special methods, special conditions and educational tools necessary to reduce the effort of looking and to increase auditory learning with partially seeing children. Cooperation with the parents to extend the child's reading ability will be discussed. Colored slides will be used as illustrations.

COURSE 135

Room 712 Period Th-4

IRWIN J. COHEN, M.D.
New York

Eye Problems in Community Health

The problems confronting an ophthalmologist in the administration of a community health program will be discussed. The major areas examined will include problems relating to the school age child, such as, case finding, community education, subnormal visual aids, special educational placement, and operation of treatment facilities where community sources are lacking. Mention will be made of the facets of a complete adult program, as well as guiding other community organizations and individuals of the procurement of eye care.

COURSE 136

Room 733 Period M-6

TULLOS O. COSTON, M.D.
Oklahoma City

Inflammatory and Degenerative Disease of the Retina: Differential Diagnosis and Treatment

The subject matter to be covered will include senile macular degeneration, Kuhnt-Junius' degeneration, central angiospastic retinopathy, and the lesions of tuberculosis and toxoplasmosis. The author's method of handling these conditions will be discussed. Colored lantern slides will be shown illustrating the various conditions.

COURSE 137

Room 734 Period Th-4

JACK P. COWEN, M.D.
Chicago

Pool Gonioscopy: Technique for Simplified Anterior Chamber Visualization

A simple study of the angles of the anterior chamber, particularly in all cases of glaucoma, can be accomplished by a lens-free method of flooding the inner angle of the eye with saline solution and of studying the submerged chamber angle with flashlight illumination and from five to ten power loupe magnification or, better still, with the detached binocular slit lamp head. The method will be demonstrated and discussed.

COURSE 138

Room 711 Period M-6

JOHN C. CUNNINGHAM, M.D.
Burlington, Vt.

Types of Head Pain as Viewed by the Ophthalmologist

The mechanism of head pain will be discussed. The clinical types of headache arising from intracranial, extracranial and paracranial sources will be reviewed. Particular attention will be given to head pain associated with cranial arteritis, mi-

graine and orbital lesions. Lantern slides will be used in the course.

COURSE 139

Room 705 Period W-4

PAUL L. CUSICK, M.D.
Detroit

Ptosis Surgery: Practical Aspects

Blepharoptosis will be classified according to its causation. The various types will be illustrated with lantern slides. The procedures used by the author to correct the various types will be described, and will be illustrated with lantern slides to show the technique.

Overcorrection and its relief will be discussed, and the procedure used for levator recession will be illustrated with lantern slides.

COURSE 140

Room 734 Period M-5
or or
Room 728 Period T-4

NORMAN L. CUTLER, M.D.
Wilmington, Del.

Cataract: Methods of Extraction

The purpose of this course is to acquaint surgeons with the spoon extraction of cataracts, either as a method of choice or as an alternative procedure. This method has now been used in six hundred extractions.

Operations using alpha chymotrypsin will be discussed. Spoon extraction seems to be ideally suited to the use of this enzyme. Procedures will be illustrated with slides and motion pictures.

COURSE 141

Room 786 Period M-6 or T-6

LOUIS DAILY, M.D.
Houston

Biomicroscopy of Vitreous and Fundus Oculi

Techniques of examination will be described. The normal and pathologic appearance of these structures will be illustrated with sixty colored transparencies made in Vienna under the direction of Dr. Karl Hruby. Types of detachment of the vitreous in association with pathologic states, including spontaneous collapse of the vitreous, hemorrhage into the vitreous, opacities, congenital anomalies, retinitis proliferans, primary and traumatic detachments of the retina, intraocular foreign bodies, tumors and cysts of the choroid, papilledema, retinal cysts, macular edema, chorioretinitis, retinoschisis, and drusen, will be illustrated and described. The clinical significance of these observations will be discussed.

COURSE 142

Room 715 Period Th-4

ALAN DAVIDSON, M.D.
New Bern, N. C.

Surgical Instruments: Preparation and Care

This discussion is designed for those ophthalmologists practicing in general hospitals who do not have nurses especially trained to care for ophthalmic surgical instruments. Mention will be made of the manufacture, materials, and choice of surgical instruments as well as their sterilization, preparation and care.

COURSE 143

Room 750 Period T-5

FREDERICK J. DAVIS, M.D.
Madison, Wis.

Sutures in Cataract Surgery: Types and Uses

The usefulness of sutures of some type for firm closure of the cataract incision is now universally recognized.

Among cataract surgeons there is a wide variation in techniques in placement of these sutures as well as in the type of suture material, needles, etc.

This discussion will touch upon these varying techniques and materials and will present some of the methods of closure used by various surgeons. There

will be a discussion of conjunctival and scleroconjunctival sutures, corneal and corneoscleral edge-to-edge or "border to border" sutures inserted through the lips of the wound, overriding corneoscleral and episcleral, and track sutures; buried surgical gut; preplaced and postplaced sutures; and suture removal.

COURSE 144

Room 777 Period M-5

ROBERT M. DAY, M.D.
New York

Medical Exophthalmos: Diagnosis and Treatment

The clinical concept of this orbital process, gained from observations in a large thyroid clinic, will be discussed. Terminology, symptoms, signs, course, differential diagnosis and treatment will be presented. The variable clinical picture will be especially emphasized, for the recognition of this condition is most important not only from the point of view of management but also in the evaluation of any form of treatment.

COURSE 145

Room 728 Period M-4 or W-4

A. GERARD DEVOE, M.D.
New York

Surgery of Trauma

The principles and techniques most useful in handling injuries of the eye and adnexa will be discussed. Typical cases will be demonstrated by still and motion picture projection.

COURSE 146

Room 706 Period M-4

SAMUEL M. DISKAN, M.D.
Atlantic City

Eye Screening Programs in Schools

The public schools of Atlantic City have developed an eye screening program, including a series of eye tests, which in my opinion is a step forward in the school vision-testing problem.

The course will present:

1. The nation-wide problem of school vision testing
2. How to set up a school eye screening program
3. Normal standards of vision for school children
4. Eye tests which lend themselves to mass screening techniques
5. A demonstration of visual screening techniques and equipment.

COURSE 147

Room 702 Period M-5

JAMES R. DUKE, M.D.
Baltimore

Lesions of the Lids: A Clinical-Pathologic Survey

The more commonly encountered lesions of the lids will be surveyed from the following aspects: relative incidence of occurrence, clinical manifestations, criteria of differential diagnosis, and histopathologic characteristics. Kodachrome slides will provide a direct correlation of the clinical appearance of the lesion with the underlying histopathologic process.

COURSE 148

Room 716 Period M-5 or T-5

EDWARD A. DUNLAP, M.D.
New York

Divergence Anomalies

These anomalies consist of divergence excess and divergence insufficiency. Each is characterized by certain specific findings that serve to differentiate it from an anomaly of convergence. In the Duane classification of strabismus they are in the group of Anomalies of Dysjunctive Movements. They are nonparalytic.

Methods of diagnosis, characteristic findings, and typical case measurements will be presented for each form. A vertical component is frequently a complicating factor. Differentiation from the A-V syndromes will be brought out.

Treatment, both conservative and surgical, will be outlined. Tabulated results of a study on 247 cases will be presented, including 138 cases that have been sur-

gically treated, with at least one year of follow-up.

COURSE 149

Room 716 Period W-4

EDWARD A. DUNLAP, M.D.
New York

Accommodative Squint: Treatment

This specialized form of esotropia has many facets. There are two types, and they are differentiated by basic findings and distinctive features. Establishment of the diagnosis will be discussed in some detail. This is important because surgical intervention is almost invariably contraindicated in this type of esotropia.

General aspects of management will be covered. Treatment in the past has been almost solely with glasses, but the use of miotics, or "peripheral accommodation stimulators" such as DFP (Floropryl) and Demecarium bromide (BC-48), is rapidly increasing. Indications and contraindications for use of these drugs in the two forms of squint will be discussed. Case reports selected from a group of over a hundred patients so treated will be presented.

COURSE 150

Room 710 Period Th-5

DAVID J. EDWARDS
Chicago
BY INVITATION

Abnormal Effects of Prescribed Lenses on Extrinsic Muscles

This year marks the one hundredth anniversary of the first conclusive work on the extrinsic muscles, published by Mueller in 1859. In the past century, Whitnall, Fuchs, Bernheimer, Bing, Traquaire, Peters, Scobee, and many others have demonstrated the extrinsic abnormalities and their correlation to the intrinsic muscles and their influence on the ability of the two eyes to focus and direct simultaneously on the viewed image.

Many ophthalmologists today agree that the testing of extrinsic muscles is of equal value to the testing of intrinsic muscles if the patient ultimately is to have visual comfort. This fact is borne out by a great number of patients who receive comfort when only the extrinsic difficulties are corrected. Although a great many ophthalmologists do a routine phoria, near point and vergence examination, there are some who do not. Those who do often neglect the thorough checking of the prescribed spectacles against the manifested muscle condition. This is especially necessary when we consider that all multifocal lenses ground for the hyperopic presbyope induce base out prism for near, which is contraindicated.

This course will point out ways and means of checking the existing muscle findings against the finished pair of glasses. We will try to bring out photographically the results of the improperly fitted glasses on the manifested phoria condition.

COURSE 151

Room 777 Period T-4

JOHN A. EGAN, M.D.
Denver

Cross Cylinder: Application and Theory

The use of the cross cylinder as taught by Edward Jackson will be discussed. Improved models will be shown and uses devised since Jackson's time will be described.

Lantern slides will exhibit practical application of the cross cylinder. Large 2-foot models of the cross cylinder, trial cylinder and trial frame will be used to demonstrate general technique for use in refraction. Twelve different uses of the instrument, including the employment of the newer correcting cross cylinder, will be described.

A brief discussion of theories involved in the cross-cylinder method will be presented, and controversial aspects will be discussed. This method of testing for astigmatism will be contrasted with other methods.

COURSE 152

Room 733 Period M-4

WILLIAM G. EVERETT, M.D.
Pittsburgh

Retinal Detachment: Selection of an Operation

The importance of evaluating each case of retinal detachment by direct and indirect ophthalmoscopy and biomicroscopy will be discussed. One method of examination may at times prove superior to others in revealing the mechanism and pathologic status of a retinal detachment. Repeated ophthalmoscopic study and an evaluation of the response of the retinal detachment to bed rest are most important. The selection of a retinal detachment operation is based on these clinical observations.

The basic operations to be considered will be electrodiathermy, vitreous implantation, and scleral shortening. The advantages of each of these operations may be variously employed as indicated by clinical evaluation. Some operative complications will be discussed.

COURSE 153

Room 777 Period W-5

HAROLD F. FALLS, M.D.
Ann Arbor, Mich.

Ocular Geriatrics

A comprehensive survey of the ocular changes and disease states associated with senescence will be presented. When possible, a differentiation will be made between universally occurring disease states in the aged eye and those disease processes appearing in senescence but having no direct relationship to the passage of time.

Treatment, care, and management of the senile eye and individual will receive consideration.

COURSE 154

Room 777 Period T-5

HAROLD F. FALLS, M.D.
Ann Arbor, Mich.

Clinical Manifestations of Constitutional Syndromes Involving the Head and Neck

This course will deal with the hereditary constitutional syndromes which exhibit anatomic and pathologic ophthalmic manifestations. The ocular changes associated with these entities will be emphasized and illustrated. The entire purpose of the course is to emphasize the role of the ophthalmologist as a doctor of medicine and his responsibility to his patients in the line of current teaching—namely, that of considering the patient as a "whole individual."

The course material will include discussion of the mucocutaneous syndromes, the ocular manifestations of the renal tubule reabsorption dysplasias, the syndromes exhibiting marked aberration in the development of the facial skeleton and lastly the syndromes exhibiting diagnostic retinal changes easily indentified by the ophthalmoscope.

COURSE 155

Room 702 Period M-4

RICARDO F. FERNANDEZ, M.D.
San Juan, Puerto Rico

Beta Radiation in Pterygium Surgery

1. Brief outline of history of pterygium and its treatment.
2. Etiology, histology, symptomatology and indications for surgery.
3. Brief discussion of most widely used techniques, with statistics covering over 800 cases.
4. Beta radiation following pterygium surgery, with statistics covering over 300 cases treated in the last three years. Comparison of results with previous methods.
5. Complications of pterygium surgery, including those treated with beta radiation and soft x-rays.
6. Presentation of kodachrome slides illustrating results and complications.
7. Short color film illustrating our present surgical technique with application of beta radiation.

COURSE 156

Room 733 Period M-5

OLGA FERRER, M.D.
Vedado, Havana, Cuba

Contact Lenses

Practical application of contact lenses in surgery, as a diagnostic aid, and in the correction of optical defects will be presented. Attention will be given to problems arising in office practice re-

garding the indication for contact lenses, selection of type of lens, and fitting techniques.

COURSE 157

Room 777 Period M-6

WALTER H. FINK, M.D.
Minneapolis

Binocular Problems in Routine Refraction

Although the correct selection of lenses solves most of the refractive problems, there remains an appreciable number of cases in which a binocular problem is present to some degree. Because of this, a routine study of the binocular efficiency of all refraction cases is indicated. Although some require a minimum of study, others require an extensive analysis of the binocular function for proper evaluation.

In the presentation, the steps in the investigation of binocular efficiency as carried out in routine refraction are evaluated and the various problems encountered are discussed, particularly the association between heterophoria and the fusional reflexes.

COURSE 158

Room 777 Period T-6

WALTER H. FINK, M.D.
Minneapolis

Vertical Muscle Surgery

A. Indications for Vertical Muscle Surgery
   1. As applied to the vertical muscles as a whole
   2. As applied to one or more vertical muscles
   3. As applied to combined vertical and horizontal muscle problems

B. Surgical Procedures
   1. Anatomic factors which determine surgical techniques
   2. Description of various surgical procedures

C. Complications Resulting from Improper Management

COURSE 159

Room 743 Period W-4

SIDNEY A. FOX, M.D.
New York

Senile Entropion and Ectropion

Modern theories in the etiology of senile entropion and senile ectropion will be reviewed very briefly. Operative procedures best adapted for the correction of the various clinical types of mild and severe senile entropion and ectropion will be discussed and the reason for each choice explained. The steps in the various techniques will be systematically outlined.

COURSE 160

Room 722 Period M-4

F. BRUCE FRALICK, M.D.
Ann Arbor, Mich.

Principles of Lid Surgery

Instead of the usual presentation of schematic drawings of surgical anatomy, the hour will be devoted to the showing, in color, of routine operations on the eyelid which were largely done as outpatient procedures. The good and bad points of the techniques used will be discussed. The commentator will point out surgical anatomical landmarks and the part they play in securing satisfactory cosmetic and functional results.

COURSE 161

Room 778 Period M-4

WILLIAM C. FRAYER, M.D.
Philadelphia

Retained Lens Protein After Operation and Trauma: Recognition of Danger and Treatment

The several mechanisms by which lens protein may contribute to prolonged inflammation following ocular operations and trauma will be discussed. The relative importance of infection, allergy and simple foreign body reactions in such eyes will be evaluated. Clinical and histologic features of lens protein reactions will be illustrated by lantern slides. On

the basis of observations made from these presentations, suggestions will be made for a rational approach to clinical management.

COURSE 162

Room 784 Period T-4

BERNARD FREAD, M.D.
New York

Ideal Refraction Equipment: Survey of Instruments Used

Refraction is most important in the daily routine of every ophthalmologist. A good part of each working day is spent with details of refraction and not enough emphasis has been placed upon the tools necessary to make refraction easier, more accurate, and less time consuming.

Every major refraction instrument manufactured in the United States and in the larger optical plants of England, France, Germany, Italy, Japan and Switzerland will be discussed. About two hundred lantern slides will graphically illustrate this equipment.

Attention will be given not only to elementary equipment used by the beginner but also to elaborate devices used for the objective and subjective measurement of refraction of particular interest to the experienced ophthalmologist.

The name, function, manufacturer, and current cost of the various instruments will be reported.

COURSE 163

Room 778 Period T-4

WILFRED E. FRY, M.D.
Philadelphia

Inflammatory and Degenerative Lesions at the Posterior Pole of the Eye: Differential Diagnosis

Not only must a differential diagnosis be made between inflammatory and degenerative lesions at the posterior pole of the eye but these conditions must also be distinguished from malignant lesions. The factors governing diagnosis of malignant lesions at the posterior pole of the eye will differ from those governing diagnosis of lesions in the midzone or in the anterior segment. When the lesion is in the midzone or the anterior segment, distinction must be made between a serous and a solid detachment. When the lesions are in the posterior segment the diagnosis must be made upon the ophthalmoscopic appearance plus all other information that can be afforded by a complete examination of the patient.

The situation is different when the macula alone is involved, or when the region of the disc is involved.

Types of lesions as they involve the macula and the perioptic region will be illustrated and the management discussed.

COURSE 164

Room 784 Period T-5

SAMUEL GARTNER, M.D.
New York

Fundus Diseases: Clinical and Pathologic Correlations

The fundus pictures in many diseases will be correlated with the clinical course of the disease and essential pathologic findings. Numerous photomicrographs of eyes obtained at autopsy will demonstrate the vascular diseases, blood dyscrasias, diabetes, and a number of neurologic disorders, including papilledema, optic neuritis, multiple sclerosis and the chiasmal syndrome.

COURSE 165

Room 731 Period T-6

J. CONRAD GEMEROY, M.D.
Detroit

External Diseases

This lecture on external eye diseases, their diagnosis and treatment, is illustrated with kodachrome slides to show the usual, as well as some unusual, diseases of the lids, conjunctiva, and cornea. These illustrations will be projected stereoscopically in color on the screen.

COURSE 166

Room 743 Period M-6

HAROLD GIFFORD, JR., M.D.
Omaha

Local Anesthesia with Special Reference to Deep Motor Block

The methods of producing complete ocular anesthesia as well as complete motor block of the extraocular muscles will be discussed. The anatomy of the orbit with reference to the nerves and blood vessels will be reviewed in detail. The technique will be described with slides and motion pictures. This technique produces a long lasting anesthesia and reduces the pressure on the globe from the extraocular muscles. This is important to prevent vitreous loss and has proved valuable in strabismus and retinal surgical procedures.

COURSE 167

Room 784 Period M-5 or T-6

JOHN F. GIPNER, M.D.
Rochester, N. Y.

Recent Advances in Ophthalmic Surgery

A review of refinements in cataract surgery, including choice of section, shelving vs. perpendicular, advantages of buried corneoscleral sutures, value of alpha chymotrypsin, control of several complications. New ideas in glaucoma surgery—peripheral iridectomy without loss of aqueous for narrow angle glaucoma. New techniques for fistulizing operations in chronic glaucoma, including the Stallard and Scheie operations.

COURSE 168

Room 781 Period T-6

JOSEPH S. HAAS, M.D.
Chicago

Congenital Glaucoma: Diagnosis and Treatment

Corneal cloudiness, injection of the bulbar conjunctiva, increased lacrimation, or blepharospasm should lead to the suspicion of glaucoma even though no enlargement of the eye has occurred. In view of the urgency of early operation, the tension should be tested with a tonometer under ether anesthesia, preferably intratracheal. There should be complete relaxation at the moment the tension is taken. Once the diagnosis is established, 5 per cent prostigmine should be instilled every three hours and goniotomy performed as soon as possible. Denuding the cloudy epithelium of the cornea makes the operation under gonioscopic control possible in over 90 per cent of cases. The present simplified technique of goniotomy is described.

COURSE 169

Room 781 Period W-4

ELIOTT B. HAGUE, M.D.
Buffalo

Irradiation Therapy: End Result

COURSE 170

Room 744 Period W-6

G. PETER HALBERG, M.D.
New York

Tear Formation: Clinical Problems

The anatomy and physiology of the tear forming organs will be reviewed briefly. Diagnostic methods to detect lowered or disturbed tear formation will be discussed with special emphasis on electrophoresis as applied to clinical use. Some new aspects of well-fitted contact lens intolerance will also be discussed. An outline of the therapeutic management will close the presentation. The lecture will be illustrated with kodachrome slides.

COURSE 171

Room 711 Period W-4

THOMAS R. HEDGES, JR., M.D.
Philadelphia

Neuralgias of the Head: Treatment

This subject, important in the daily practice of our specialties, concerns, primarily, a proper evaluation and classification of head pain with relation to its fundamental mechanisms. Once a clear outline of their differential diagnosis and origins is presented, all the neuralgias of the face, both typical and atypical, as well as other types of vascular headaches

and head pain from other causes, can be treated intelligently. Each year new methods of diagnosis and treatment appear in the literature. These will be covered in detail with particular aim toward the practical office management of these problems.

COURSE 172

Room 706 Period W-4

JOHN W. HENDERSON, M.D.
Ann Arbor, Mich.

Intracranial Arterial Aneurysms: Ophthalmic Findings

The ophthalmic findings of arterial aneurysms of the circle of Willis will be discussed on the basis of a series of 119 cases studied at the University of Michigan. Cranial nerve involvement, visual symptoms and findings, and funduscopic findings will be analyzed. Case summaries and arteriograms of pertinent patients will be noted. The importance of the ophthalmologist's early awareness of such a diagnosis is stressed.

COURSE 173

Room 702 Period W-6

ANDERSON C. HILDING, M.D.
Duluth, Minn.

Mechanics of Vitreous Motion

Before one is able to assign to the vitreous the roll it plays in ocular pathology, it is necessary to understand its behavior under normal as well as abnormal circumstances. The present study has two phases. The first describes the vitreous movements and attachments as observed in phakic eyes and the second presents observations on the form, movement and structure of the vitreous in aphakic eyes. The movements of the vitreous and the forces which bring them about are doubtless of great importance in a number of disease conditions, including detachment of the retina and postoperative complications of intraocular surgery. With the thought in mind that a study of these forces might be fruitful in a better understanding of pathologic conditions of the vitreous and retina, and that this understanding might prove useful in the prevention and treatment of these conditions, the studies on the mechanics of vitreous motion were undertaken.

In the study on normal phakic eyes, the vitreous movements observed in freshly enucleated ox eyes are described; the forces involved in movement of the vitreous are analyzed and slit lamp observations of phakic human eyes, to study the pattern of movement of the vitreous, are included. With the information available from these observations, the points of greatest strain upon the vitreous attachments during rotation are considered.

The study on aphakic eyes after intracapsular cataract extraction calls attention to the altered anatomic relations in the anterior portion of the eye and the resulting mechanical effects after this procedure. The postoperative appearance of the hyaloid membrane took on a multitude of forms which are described and illustrated. Postrotational movements of the vitreous were studied in these aphakic eyes through the corneal microscope and, from these observations, one is able to speculate about the mechanisms for intraocular trauma, such as retinal tear and macular damage. Other findings include adhesions of the vitreous, shrunken vitreous and liquefied vitreous. The possible significance of these changes is discussed.

COURSE 174

Room 731 Period W-4

HOWARD F. HILL, M.D.
Waterville, Maine

Cataract Surgery: Keratome and Scissors Technique

The purpose of this course is to describe in minute detail the technique of the cataract operation using the keratome and scissors. A suture technique will be described that gives firm watertight closure of the wound, using buried gut sutures. Meticulous approximation of the wound edges under magnification will be stressed. Points of technique that avoid the more common complications will be emphasized.

Slides and motion pictures illustrating the procedure will be shown.

COURSE 175

Room 778 Period M-6

WILLIAM T. HUNT, JR., M.D.
Philadelphia

Problems in Accommodation: Finding of Near Point

The distant refractive state will first be considered. Balancing the refraction for distance and near is a concern. Factors which may modify the distant correction for use at near points, such as accommodation, phoria and other findings, will be evaluated in their relationship to each other. The use of the cross cylinder at near, including its use with grid charts and the red-green lantern findings are to be discussed.

COURSE 176

Room 784 Period M-6

JERRY H. JACOBSON, M.D.
New York

Electroretinography

The change in the electrical status of the retina when it is functioning can be detected and recorded by the relatively simple technique of electroretinography. The test has been shown to be of value in the early diagnosis of retinal degenerations, in retinal detachment, and in evaluation of the status of a retina obscured from ophthalmoscopic view by cataract or vitreous or corneal opacity.

This course will include a description of the technique of the test, with emphasis on the facility with which it can be performed in almost any hospital, and a discussion of present and future applications. A motion picture will illustrate the actual technique. The related electrophysiological technique of electromyography will also be discussed.

COURSE 177

Room 778 Period W-4

CHARLES E. JAECKLE, M.D.
East Orange, N. J.

Nonstrabismic Abnormalities of Binocular Vision: Diagnosis and Treatment

Accommodation and vergence in terms of stimulus-response mechanisms will be reviewed. With this physiologic background, a clinically useful classification of nonparalytic oculomotor abnormalities will be presented. The role of accommodation and fusional deficiencies in relation to heterophoria and comfortable binocular vision will be stressed. Emphasis will be on the problems encountered daily in every ophthalmologist's office.

Specific signs and symptoms of nonstrabismic disturbances of binocular vision will be indicated. With the aid of basic office refraction equipment, simple but effective methods of diagnosis and treatment will be demonstrated.

COURSE 178

Room 786 Period W-4

ARTHUR J. JAMPOLSKY, M.D.
San Francisco

Ocular Divergence: Management

Anomalies of divergence follow a general pattern of exophoria, intermittent exotropia at distance, intermittent exotropia at distance and near, and constant exotropia. The importance of suppression, both axial and hemiretinal, is paramount in proper surgical or orthoptic management. The prognosis and methods of treatment (optical, orthoptic, and surgical) differ markedly in exophoria, intermittent exotropia, and constant exotropia. The function of fusional divergence is to be differentiated from the passive and active factors producing intermittent and constant exotropia. The sensory and motor mechanisms in divergence anomalies differ in visually young and visually adult patients, and the management should be modified accordingly.

COURSE 179

Room 784 Period W-4

FRED JOBE
Rochester, N. Y.
BY INVITATION

Ophthalmic Instruments: Practical Information

The efficient use of an instrument depends to a large extent on its mainten-

ance and adjustment. A knowledge of the performance that can be expected is basic in the proper use of any instrument. This course is designed to give the ophthalmologist a better understanding of his equipment. The fundamental design and construction of the commonly used instruments will be discussed. The material will include ophthalmoscopes, retinal cameras, slit lamps, refractors and keratometers.

COURSE 180

Room 786 Period W-5

CARL CORDES JOHNSON, M.D.
Boston

Ptosis

The selection of the proper operation for a given case of ptosis is the theme of this course.

Ptosis will be classified into its various categories, with particular emphasis on congenital ptosis. The part played by associated anomalies will be stressed.

Various types of operations will be considered, with particular emphasis on the lecturer's method of levator resection as done through a skin incision. The course will be illustrated by slides and a motion picture.

COURSE 181

Room 777 Period W-6

HAROLD H. JOY, M.D.
Syracuse, N. Y.

Chronic Glaucoma: Surgical Management

The object of this course is to present in a practical manner the indications and contraindications for surgical intervention, the proper choice of operation, the various standard techniques, the handling of operative and postoperative complications, and the procedures to be used when reoperation is necessary.

The dangers and disadvantages of surgical intervention are analyzed, as are the salient features which should determine whether or when an operation is indicated. Particular attention is paid to selecting a procedure which will best meet the needs of the case at hand with special reference to the condition of the chamber angle. The standard techniques are discussed in detail, including modifications, safety measures, complications, and reoperations.

COURSE 182

Room 786 Period W-6

KELVIN A. KASPER, M.D.
Philadelphia

Dacryocystorhinostomy

A modified version of the Mosher-Toti operation, emphasizing its simplicity and the safety in using an external approach and bloodless field will be demonstrated. The regional anatomy, the various structures encountered, the limits of safety, and methods used to prevent later closure will all be considered. Preoperative preparation, exact technique of local anesthesia and postoperative care will also be outlined.

A film in color will show the entire operation. Following the film, questions on any phase of it will be answered by using greatly enlarged paintings of the various steps from the incision to the finished window.

COURSE 183

Room 784 Period W-5

DEWEY KATZ, M.D.
Hartford, Conn.

Ophthalmic Anatomy: Clinical Significance and Application of Recent Advances

This course will be devoted to a presentation and discussion of recent advances in the realm of ocular anatomy and histology, the clinical significance of such advances, and the important clinical applications of some of the lesser known anatomic facts as well as a few of the well established ones. The anatomic basis for a number of clinical entities and the practical surgical import of some unusual anatomic facts will be discussed.

COURSE 184

Room 750 Period W-6

I. HERBERT KATZ, M.D.
Syracuse, N. Y.

Common Eye Diseases of Dogs and Their Therapy

The following points will be considered: (1) medicolegal aspects, including relationship of doctors of medicine and veterinarians; (2) external diseases, including injuries, melanotic keratitis, keratomalacia, ulcers and other corneal affections; (3) glaucoma, cataract, and fundus diseases.

Emphasis will be placed on the differences between human and dog conditions.

COURSE 185

Room 781 Period T-5

ROSCOE J. KENNEDY, M.D.
Cleveland

Ocular Manifestations of Systemic Diseases

Many systemic diseases have characteristic ocular manifestations. Every ophthalmologist should be familiar with these for better recognition and handling of these cases. Any and all parts of the eye may be involved by many of these diseases.

The recognition of some of the more common systemic diseases by their ocular manifestations will be discussed; e.g., hyperthyroidism, syphilis, tuberculosis, diabetes mellitus, blood dyscrasias, vascular occlusions.

Other less common diseases, such as lupus erythematosus, sarcoidosis, brucellosis, tularemia, myasthenia gravis, and Wilson's disease, will be reviewed.

Colored slides will be used to demonstrate the various manifestations.

COURSE 186

Room 750 Period T-6 or W-5

ALFRED KESTENBAUM, M.D.
New York

Reading Aids for Low Vision

Four reading devices are available for low vision: magnifying eyeglasses, loupe, telescopic loupe, and magnifying projection. Practical rules by which the required strength of these devices can be calculated from an individual's visual acuity will be discussed.

For very low vision (20/300 to finger counting at four feet) the magnifying eyeglass is available. The advantages and disadvantages of elimination of spheric aberration by using a small lens (original microglasses), by two air-separated lenses (microscopic lenses), by a combination of several lenses, and by lenses with aspheric curvature will be discussed and results from the use of each of these aids reported. If the strength of the device prescribed has been properly calculated from available formulas, patients with vision as low as finger counting at four feet are almost invariably able to read usual print unless they have some psychological handicap, such as unwillingness to read. In some instances the vision attained deviates from the calculated improvement because of the nature of the disease. These deviations will be discussed.

A plan will be developed to aid in establishing further clinics for patients with low vision.

COURSE 187

Room 777 Period W-4

JOHN HARRY KING, JR., M.D.
Chevy Chase, Md.

Lamellar Corneal Transplantation

Lamellar keratoplasty "can be used with success in 75 per cent of the cases where perforating keratoplasty is used today," according to Magitot. This technique is important to every ophthalmologist because of its wide applications in many aspects of corneal pathology. The indications, instrumentation, surgical technique, donor materials, complications, and postoperative care will be discussed and illustrated. Its application in the treatment of common conditions will be emphasized.

COURSE 188

Room 781 Period Th-4

JOHN HARRY KING, JR., M.D.
Chevy Chase, Md.

Transplantation of Preserved Ocular Tissues

The use of donor eye tissues for transplantation is required in many techniques of modern eye surgery. These materials may usually be obtained from eye banks when they are needed for elective surgical operations. They are often unavailable to the average ophthalmologist, especially for emergency use.

It is possible to preserve and store certain eye tissues indefinitely for use in various surgical procedures.

A method for preserving corneas by dehydration, and storage without refrigeration, will be described and demonstrated. The technique of utilizing preserved corneas for lamellar grafting will be shown.

Preservation of the vitreous in powdered form and its implantation in cases of retinal detachment and in transplantation in patients with cloudy media will be discussed and illustrated.

Studies in preserving other eye tissues will be mentioned.

COURSE 189

Room 731 Period W-5

BERTHA A. KLIEN, M.D.
Chicago

Clinical Pathology of the Retina

The clinical manifestations of a diseased retina and pigment epithelium, and the pathogenesis of retinal disease in general will be discussed prior to a demonstration of the specific findings in a selected group of such diseases. Special emphasis will be placed upon the diagnosis of functional, inflammatory, and degenerative lesions of the macula lutea and on their differential diagnosis with relation to melanotic tumor, where this question arises.

COURSE 190

Room 795 Period M-6

ABRAHAM L. KORNZWEIG, M.D.
New York

Clinical Embryology

A study of the embryology of the eye has many practical values for the ophthalmologist. It enables him to understand the structure of the eyeball by seeing how it developed. This helps him to appreciate the functioning of the different parts of the globe. Above all, it aids in the differentiation of defects in the eye due to developmental and hereditary causes from those due to environmental conditions.

A series of slides will be shown demonstrating critical periods in the development of the human eye. Special attention will be given to abnormalities of the eye; congenital cataracts; congenital hydrophthalmos; typical colobomas of the iris, choroid, ciliary body and optic nerve; aniridia; microphthalmia; abnormalities of the optic disc; congenital defects in the retina; and retrolental fibroplasia.

COURSE 191

Room 706 Period T-5
or or
Room 705 Period W-6

BERNARD KRONENBERG, M.D.
New York

Practical Ocular Therapeutics

This course will present therapeutic measures for the most common and frequent ocular problems. Diseases of the cornea, uvea, vitreous and retina will be discussed. The course will also delineate the limitations of our knowledge in the therapy of some of the baffling diseases. An attempt will be made to keep the disscusion on a practical level.

COURSE 192

Room 736 Period W-6

PETER C. KRONFELD, M.D.
Chicago

Present Trends in Ocular Pharmacology

Current investigations in the field of ocular pharmacology are concerned principally with:

1. Ocular hypotensives: their effectiveness in lowering intraocular pressure as weighed against their side reactions.

2. Drugs suited for the treatment of the few remaining serious infectious diseases of the eye.
3. Enzymes such as Barraquer's chymotrypsin, which eventually may prove equally effective in various diseases.
4. Cytotoxic agents suitable for the treatment of tumors of the eye and its adnexa.

COURSE 193

Room 715 Period W-5

LAWRENCE H. LASSITER, M.D.
Chicago

Pathology of Ophthalmoscopically Visible Lesions

COURSE 194

Room 744 Period W-5

BRENDAN D. LEAHEY, M.D.
Lowell, Mass.

Corneal Transplantation

Practical points in preparatory surgery and therapy, operative techniques, and complications will be stressed, with special emphasis on current trends in graft fixation. Various types of overlying and direct sutures and splints will be shown along with several recently designed instruments. The newest version of the author's preplaced track suture method will be included. With this technique, silk sutures are inserted, running 1 mm. on each side of the trephine mark. These are stained with methylene blue and pulled through, leaving blue tracks for the subsequent direct sutures. Corresponding preplaced sutures are inserted in the graft with the aid of a plastic turret-style holder. For grafts up to 6 mm. in diameter, overlying sutures are also utilized.

The lecture will be illustrated by a series of eighty-five slides and a short motion picture, with sound, of one operation.

COURSE 195

Room 733 Period T-4 or W-4

PLACIDUS J. LEINFELDER, M.D.
Iowa City

Perimetry and Use of the Tangent Screen

A discussion of the relative values of perimetry and tangent screen in the examination of patients with neurologic diseases and glaucoma. Exceptions will be pointed out.

Description of the techniques used for each method is given and the importance of the use of proper test objects is explained.

COURSE 196

Room 743 Period W-5

ROBERT W. LENNON, M.D.
Joliet, Ill.

Angle Closure Glaucoma: Therapy

The therapy of angle closure glaucoma will be divided into medical and surgical categories. Medical treatment will be discussed from the standpoint of local and oral medication. Special reference to the pharmacologic and physiologic actions of all the drugs employed in angle closure glaucoma will be made. Parasympathomimetic and sympathomimetic agents will be reviewed. Miotics will be classified and their physiologic action on the pupil described. A review of Diamox will be given, and this drug's role in treatment will be explained.

Surgical intervention in angle closure glaucoma will be discussed with special reference to the types of operations as well as to the timing of the procedures.

The lecture will be supplemented by the use of colored slides.

COURSE 197

Crystal Room Period W-6

IRVING H. LEOPOLD, M.D.
Philadelphia

Advances in Ophthalmic Therapy

Experience with old drugs and new ones during the year affords each ophthalmologist the opportunity to evaluate their therapeutic measures properly. Each new, as well as old, agent has undesirable side effects, some of which

are apparent as soon as the drug is tired. Others become evident only with the passage of time and accumulation of experience.

During the past year several new antibiotics and chemotherapeutic agents have been introduced. New medications have been tried in glaucoma in an attempt to withstand the onslaughts of this disease.

The therapy of vascular lesions involving the eye has undergone changes which require scrutiny.

Within the past year several new steroids and other anti-inflammatory agents have been introduced and evaluated.

Degenerative diseases have stimulated and attracted attention from the therapeutic standpoint. Each new therapeutic agent has created new problems. They should stimulate each ophthalmologist to review his therapeutic armamentarium.

COURSE 198

Room 744 Period M-4

IRVING H. LEOPOLD, M.D.
Philadelphia

Chemotherapy

Chemotherapy in ophthalmology includes treatment with those agents which are anti-infective, as well as with other groups such as autonomic agents. The term also implies therapy with combinations of drugs, perhaps antagonists, which form new compounds with either no activity or substantially less than the original. Under some circumstances, the body itself may be considered as providing the antagonist. Only a few proved instances of chemical antagonism by administered drugs in the eye are available. There is a definite relationship between chemical structure and biological action. The questions of solubility, diffusibility, penetration of tissue and eventual combination between drug and biological system are all inherently connected to chemical structure.

COURSE 199

Room 781 Period T-4

CECIL W. LEPARD, M.D.
Detroit

Eye Diseases Common to Children

Those ocular diseases occurring primarily in children constitute a group of special interest to the ophthalmologist, particularly when the method of examination or the differential diagnosis differs from that for those diseases in the adult. The technique and results of examination of premature infants will be discussed. The following syndromes will be discussed: neuroblastoma, chloroma, Schueller-Christian's disease, and eosinophilic granuloma. The discussion will be illustrated by lantern slides showing photomicrographs and findings in the eye and orbit.

COURSE 200

Room 726 Period T-6

IRVIN LEVY, M.D.
Trenton, N.J.

Practical Uses of Contact Lenses

Today contact lenses have more than hurdled the bridge of vanity into the realm of function. Every ophthalmologist must be aware of the indications for contact lenses. He should also be acquainted with the different makes and types of contact lenses. Whether he personally fits or does not fit contact lenses, he should be able to recognize the elements of a successful contact lens fitting. He should also be able to recognize the reasons for discomfort and failure in contact lens fitting. These fundamentals along with the technique of contact lens fitting will be discussed in this course.

COURSE 201

Room 726 Period W-6

J. EARL LEWIS
Chicago
BY INVITATION

Mechanical Visual Aids

A presentation of various aids for the patient with low visual acuity.

Many cases of subnormal vision can be greatly aided by telescopic and microscopic spectacles.

There will be a demonstration of the latest devices known to optical science

for relief of subnormal vision and a presentation of case histories. Patients who have been helped by these aids will be introduced.

A high power add bifocal-type spectacle can be made in a temporary form to be tried by the patient, at a nominal cost, to determine how much his vision can be helped before the final or permanent lenses are ordered. Various changes can be made in this temporary type, at no additional cost during the experimental period, as it is sometimes necessary to see the patient two or more times before the permanent lenses are ordered. Frequently the final prescription will be weak as compared to what is first required. It is possible to incorporate the distance prescription in the permanent lenses, if so desired by the practitioner.

Various authorities estimate that over 60 per cent of the visually handicapped can be materially helped by the use of these aids.

COURSE 202

Room 705 Period Th-4

JAY G. LINN, JR., M.D.
Pittsburgh

Evaluation of Patient for Glaucoma Operation

The selection of the proper operation for acute glaucoma or uncontrolled chronic glaucoma is dependent on many factors. The percentage of poor results is greatly reduced after a thorough evaluation of all important factors in an individual case. The significant findings will be discussed from the point of view of how they influence the selection of operative procedure.

COURSE 203

Room 726 Period T-5

RALPH I. LLOYD, M.D.
Brooklyn

Fundus Lesions of the Senile Eye

A number of fundus conditions seen in the macular area of aging eyes have been rated as entities but are really stages of a process resulting from the effects of time upon the elastic tissues of the lamina of Bruch and the choroidal vessels. The earliest phase is seen frequently in the eyes of older persons as an atrophy of the choroidal pigment exposing the sclerotic choroidal vessels. If the condition progresses, subretinal hemorrhages and exudate occur, with Coats's disease, disciform degeneration of the macula and angioid stripes as the final phase. Some of these lesions must be differentiated from metastatic lesions and tumor. As few of these eyes come to the laboratory, study of these lesions through the various stages is important.

COURSE 204

Room 726 Period W-4

RALPH I. LLOYD, M.D.
Brooklyn

Diseases of the Cornea

The slit lamp has had almost as important an effect upon our knowledge and treatment of the cornea and its diseases as the ophthalmoscope did in the hands of Graefe and his colleagues. This period will be devoted to study of corneal injuries and diseases, special attention being given to early diagnosis and treatment of the insensitive corneas occurring in Fuch's dystrophy and dendritic keratitis. The effects of hereditary dystrophies have been considered irreparable, but recent experience with corneal transplants has made reconsideration of established practices imperative.

COURSE 205

Room 716 Period T-6

JOHN CHENAULT LONG, M.D.
Denver

Retinoblastoma and the Pseudoretinoblastomas: Differential Diagnosis

Familiarity with the clinical features of retinoblastoma will make it easier to differentiate between this and other confusing ocular disorders of childhood. The characteristics of retinoblastoma and the various pseudoretinoblastomas will be discussed. The technique of the diagnostic examination will be stressed. The

aim of the presentation is to facilitate accurate diagnosis of these conditions by the clinician who sees them only infrequently.

COURSE 206

Room 743 Period T-6

VIRGINIA LUBKIN, M.D.
New York

Psychosomatic Aspects of Ophthalmology

Because of the magnitude of the field, the subjects of this year's course will be limited to two, treated relatively intensively: (a) head pains (including experimental work of the last ten years in migraine and other vascular headache, muscle-tension headache, etc.); (b) recent developments in experimental psychosomatic medicine (including experimental hypnosis, production of disease; biochemical studies, electrode implantation techniques).

COURSE 207

Room 726 Period M-6

CYRIL M. LUCE, M.D.
Philadelphia

Wound Healing

Of the various ocular wounds, the one of major interest to the average ophthalmologist is that following cataract extraction. Since the integrity of the wound represents an important factor in the avoidance of early and late complications, it is of interest to study both the normal and the abnormal healing of cataract incisions. The healing of wounds, both with and without sutures, and the use of permanent and absorbable sutures will be discussed.

Mention will be made of the healing of the wound following lamellar scleral resection, of conjunctival wounds in various muscle procedures, and of the flap in several glaucoma operations.

COURSE 208

Room 722 Period M-5

ANGUS L. MacLEAN, M.D.
Baltimore

Cataracts: Surgical Management

This subject will be considered with respect to preliminary examination, preoperative preparation, the operation, and postoperative care. The general preliminary examination, including necessary specific tests, and the detailed local examination of the eye will be outlined. Preoperative preparation, including both general and local procedures, will be discussed. Significant points in the operative technique will be considered, including the use of the conjunctival flap as opposed to no flap and the choice of techniques for the extraction of the lens in keeping with the age of the patient, the maturity of the cataract and the type of cataract. Postoperative care, from the procedures immediately following the operation to the final refraction and fitting with glasses, will be comprehensively discussed.

There will be a motion picture demonstration.

COURSE 209

Room 727 Period T-6

AUREL E. MANGOLD
New York
BY INVITATION

Proper Fitting of Glasses

This discussion will stress the following subjects:

1. The necessity of analyzing the prescription so that the finished glasses will give maximum comfort and efficiency
2. Anisometropic prescriptions and their effects on reading comfort
3. The importance of individual pupillary distance measurements
4. Lens form and its effect on visual comfort
5. The importance of vertex distance
6. The proper selection of bifocals in cases of hyperopia and myopia
7. Colored lenses
8. Zeiss, Kollmorgen and Feinbloom telescopic and microscopic systems
9. Methods of determining causes of patients' complaints with finished glasses
10. Suggested procedure for examination of a pair of glasses

COURSE 210

Room 712 Period W-4

MORTIMER MANN, M.D.
Indianapolis

Hypertensive Vascular Changes in the Fundus

The proper interpretation of the changes produced in the fundus as a result of arterial hypertension depends on their correlation with other clinical and laboratory data. The various ophthalmoscopic findings in essential hypertension, malignant hypertension, toxemia of pregnancy, and acute and chronic nephritis will be presented and discussed in relationship to other manifestations of these diseases. The extent to which observations of the fundi are helpful in prognosis and treatment will also be considered.

COURSE 211

Room 721 Period T-6

WILLIAM A. MANN, M.D.
Chicago

Functional Visual Impairment

Functional visual impairment, much more common in private practice than is generally believed, embraces conscious simulation and hysteria. A differential diagnosis between the two is often difficult and sometimes impossible. Organic disease of the eyes and central nervous system must be eliminated before any case can be classified as functional. History, observation, malingering tests, visual fields, and psychiatric studies will assist in a definitive diagnosis. Treatment in recent cases of hysteria may be effected by the ophthalmologist by simple suggestion, but more deep-rooted long-standing cases require help from the trained psychiatrist. Since every ophthalmologist encounters hysterical and neurasthenic individuals as well as malingerers, an understanding of the mechanism, diagnosis, and treatment of functional visual disturbance is important.

COURSE 212

Room 713 Period Th-4

PAUL L. MARKS, M.D.
Baton Rouge, La.

Electrical Currents Used in Ophthalmology

An attempt will be made to explain the physical principles underlying the various electrical currents available to the ophthalmologist. An understanding of these principles will enable the surgeon to purchase his equipment more intelligently. What is more important, he will know what to expect following the use of various appliances. Among topics for discussion will be vacuum tube and spark gap circuits, high and low frequency currents, and cutting and coagulating currents. This will be correlated with the equipment that is now available for purchase.

COURSE 213

Room 727 Period W-6

DON MARSHALL, M.D.
Kalamazoo, Mich.

Chronic Infections of the Lids

Chronic lid infections will be discussed from the practical aspect of diagnosis, office management and therapy. Emphasis will be upon the more common lesions, but others will be considered. The discussion will be illustrated with kodachrome photographs.

COURSE 214

Room 732 Period T-6
or or
Room 781 Period W-5

JAMES L. McGRAW, M.D.
Syracuse, N. Y.

Contact Lenses

In this course the relative merits of contact lenses as compared with spectacles will be presented. The advantages and disadvantages of the various types of contact lenses will be reviewed. Among the lenses to be discussed are the conventional fluid lens, the corneal lens, and the ventilated lens.

Comparative fitting time, wearing time, and subjective and objective effects

of the various lenses will be discussed. Indications and contraindications for contact lenses will be presented.

COURSE 215

Room 726 Period W-5

WILLIAM P. McGUIRE, M.D.
Winchester, Va.

Cataract: Management of the Patient

This course is being offered for the first time because it is felt that some discussion of the management of the patient with cataract will be helpful. Discussion of the various surgical procedures will be held to a minimum. The psychological approach to the problem, both in the preoperative and postoperative phases, will be emphasized. Problems in refraction encountered in the rehabilitation of the patient with aphakia will also be considered in some detail.

COURSE 216

Room 712 Period T-6

GEORGE R. MERRIAM, JR., M.D.
New York

Ocular Radiotherapy

The use of radiation in the treatment of ocular lesions will be discussed with particular emphasis on the late effects. The clinical course of the various diseases will be described briefly and the anticipated benefits of irradiation evaluated in terms of other therapeutic measures and the possible late sequelae. The discussion will be divided into three categories: superficial, low voltage, and high voltage therapy. The factors, dose, treatment time and technique of therapy will be described for each condition.

Superficial therapy will include both Grenz ray and beta radiation and will cover treatment of such conditions as vernal catarrh, corneal vascularization, precancerous melanosis, recurrent pterygia, nodular episcleritis, phyctenular keratitis, bullous and filamentary keratitis, and resistant corneal ulcers.

Low voltage therapy will comprise primarily the treatment of epithelization of the anterior chamber. A brief discussion will be given of the relative values of irradiation and surgery in the treatment of basal and squamous cell carcinomas of the lid.

High voltage therapy will cover such lesions as retinoblastoma, ocular lymphosarcoma, orbital hemangiomas and metastatic carcinoma to the eye or orbit.

COURSE 217

Room 740 Period Th-4

SAMUEL J. MEYER, M.D.
Chicago

Glaucoma: Surgical Treatment

The principles of the surgical treatment of glaucoma will be elaborated upon. The indications for the various types of operations and their mode of action will be correlated with the gonioscopic findings. Indications for surgical intervention in the various secondary glaucomas will be given. The treatment of the complications following surgical procedures for glaucoma will be reviewed.

COURSE 218

Room 778 Period M-5

RICHARD A. MILLER, M.D.
Memphis

Corneal Diseases

This course will consist of a kodachrome picture demonstration of corneal diseases. A brief review of the normal histology and physiology of the cornea will be included, along with the diagnosis and treatment of the various dystrophies and diseases seen in practice.

COURSE 219

Room 711 Period T-6 or W-6

W. HOWARD MORRISON, M.D.
Omaha

Glaucoma: Office Management

The control of glaucoma as an office procedure will be considered. Attention

will be directed to the action of medications and their proper prescription. Particular emphasis will be placed upon the use of miotics together with drugs that decrease the production of aqueous.

The importance of the individual's phasic variation pattern in relation to the proper timing of medication will be stressed.

The role and frequency of tonography, tonometry, gonioscopy, ophthalmoscopy, and biomicroscopy, refraction and perimetry will be discussed. A consideration of office records, environmental difficulties and patient education will be undertaken.

COURSE 220

Room 743 Period W-6

WILLIAM F. MURRAH, JR., M.D.
Memphis

Subnormal Vision: Clinical Evaluation

The author will list and classify the visual aids which he has used in improving the vision, either distance or near, of the patient whose best vision, aided or not aided by glasses, is poor and unsatisfactory.

Kodachrome slides will be used to show these various aids for subnormal vision, including telescopic and microscopic devices; and an evaluation and comparison of their physical characteristics and optical properties will be given along with how they may be used.

The amount of improvement found in the different grades of subnormally poor vision in a comprehensive series of patients following use of the various devices will be shown, and a frank and practical evaluation of these findings is presented.

COURSE 221

Room 712 Period T-4

HOWARD A. NAQUIN, M.D.
Baltimore

Dislocation of the Lens

Displacements of the lens will be reviewed from an etiologic and topographic point of view. The complications arising from displacements of the lens will be outlined and their treatment discussed. Special emphasis will be given to the problem of congenital dislocated lenses and arachnodactyly. Associated systemic and ocular abnormalities of this syndrome will be discussed. The indications for surgical intervention will be presented, and surgical technique will be discussed. Operative and nonoperative complications in a series of cases will be presented.

COURSE 222

Room 740 Period Th-5

GLENWAY W. NETHERCUT, M.D.
Chicago

Chorioretinopathies

COURSE 223

Room 712 Period W-6

FRANK W. NEWELL, M.D.
Chicago

Radioactive Isotopes in Ophthalmology

A brief description of the physical properties of radioactive isotopes and the factors involved in selection of an isotope for use in man or experimental animals will be presented. The use of compounds labeled with C^{14} and H^{3} will be discussed, together with the use of isotopes in steady state studies, radioautographs, tumor localization, and ocular metabolism.

COURSE 224

Room 732 Period Th-4

FRANK W. NEWELL, M.D.
Chicago

Refinements in Ophthalmic Surgery

In this course, the chief concern shall be with developments in the production of adequate anesthesia and instruments, medications and surgical techniques that have proved themselves useful in practice. Various techniques will be illustrated by means of kodachrome slides and motion pictures.

COURSE 225

Room 781 Period W-6

KENNETH N. OGLE, Ph.D.
Rochester, Minn.

Stereopsis: Present Concept

In this course the basic facts of stereoscopic vision will be considered. The topics discussed will include (1) relationship to general space perception, (2) retinal correspondence, (3) disparate images, (4) stereoscopic sensation, (5) stereoscopic acuity, (6) limitations as to both distance and disparity, (7) relationship to fusional movements, and (8) duration of stimuli. Also, some theoretical and practical aspects of stereopsis will be considered. Much of the material for the course will be based on the results of research over the past decade.

COURSE 226

Room 728 Period Th-4

KENNETH N. OGLE, Ph.D.
Rochester, Minn.

Binocular Oculomotor Coordination and Imbalances

The physiologic and neurologic components of the convergence processes, especially as related to the accommodation-convergence association, to fusion and fusional movements, and to the accommodative convergence and the proximal convergence, will be considered. Also discussed will be the phenomenon of fixation disparity and its use as a tool for studying oculomotor imbalances, especially when the eyes are subject to the stress of prism vergences and changes in the stimulus to accommodation. The data of representative cases will be presented.

COURSE 227

Room 784 Period Th-4

JAMES A. OLSON, M.D.
Detroit

Iritis, Iridocyclitis, Keratitis: Differential Diagnosis and Treatment

This course will present a review of the differential diagnostic points in nongranulomatous and granulomatous inflammations of the anterior uveal tract and the nonsuppurative inflammatory lesions of the cornea. Attention will be directed to the current methods of therapy, including the use of corticotropin (ACTH), cortisone, and hydrocortisone. The efficacy of the various methods of administering these agents, the dosages, and the problem of prolonged treatment and repeated treatment will be discussed. The use of antibiotics and the other supportive therapeutic measures in selected cases will be presented. Attention will be directed to the continued importance of careful physical examinations and the subsequent correction of possible causative focal defects of generalized disease processes.

COURSE 228

Crystal Room Period M-6

R. TOWNLEY PATON, M.D.
New York

Corneal Surgery

COURSE 229

Room 721 Period W-5

HUBERT O. PAULSON, M.D.
Lincoln, Neb.

Lighting for Comfortable and Accurate Seeing

Illumination plays as important a part in correction of asthenopia as do refractions and orthoptics. Many industrial and home visual tasks can be accomplished much more efficiently and comfortably with proper illumination. The five requirements of illumination will be presented according to more recent standards. The proper use of fluorescent and incandescent sources of light will be discussed.

COURSE 230

Room 702 Period M-6
or or
Room 705 Period T-6

CHARLES A. PERERA, M.D.
New York

Retinal Detachment

Successful surgery in serous detachment of the retina depends upon a knowledge of the etiologic factors, the preoperative study of the patient, and the technique of operation. In addition to a discussion of these subjects, this course will deal with the prognosis as affected by preoperative and operative findings.

COURSE 231

Room 702 Period W-5

RAYMOND L. PFEIFFER, M.D.

IRA S. JONES, M.D.
New York

Roentgenography of the Eye and Orbit

Among the most conspicuous roentgenographic abnormalities affecting the bone of the orbit is hyperostosis. This can be detected by most observers in a high percentage of cases, particularly when the fellow side is uninvolved and available for comparison. The determination of hyperostosis and its significance in various conditions affecting the orbit will be examined in this course. Although most tumors destroy bone, certain lesions result in hyperostosis. Among these are meningiomas, lacrimal gland tumors, and Schmincke tumors. These will be described. The response of bone to chronic infection often results in increased density; examples will be shown of the phenomenon in chronic sinusitis and osteomyelitis. Certain metabolic disturbances of bone may result in an increased deposition of calcium salts, as in leontiasis osseum, or in alternate increased density and porosity, as in Paget's disease. These conditions also will be described. A thorough understanding of hyperostotic bone conditions forms a good basis for the study of the more difficult area of rarefactions of bone.

COURSE 232

Room 731 Period M-6

GUILLERMO PICO, M.D.
Santurce, Puerto Rico

Dacryocystorhinostomy

A technique of external dacryocystorhinostomy which has been found simple, safe and successful will be described in detail. Kodachrome slides and a motion picture in color will illustrate the steps of this operation. The almost complete absence of bleeding is one of its most desirable features.

Important aspects in the regional anatomy will be demonstrated. Preoperative preparation, anesthesia and postoperative care will be discussed.

COURSE 233

Room 744 Period W-4

RALPH H. PINO, M.D.
Detroit

Aids to the Ophthalmologist in Office Practice

Modern comprehensive office procedure in ophthalmology is time consuming and highly technical. The work load of the ophthalmologist will increase until a balance is struck between the number of doctors of medicine graduated and population requirements. There are modern methods, including the use of technical assistants, by which the ophthalmologist can care for more people more efficiently than by traditional methods.

Leadership by the doctor of medicine in treatment and prevention of blindness is in direct proportion to the number of people he is able to care for scientifically and efficiently. Those he cannot care for will go elsewhere at a time in the history of medicine when one person goes blind every twenty minutes in the United States.

Modern office methods will be discussed and illustrated with lantern slides. Time will be reserved for questions and examination of record materials.

Consideration of our office methods is essential in implementing the important objectives of the National Foundation For Eye Care.

COURSE 234

Crystal Room Period T-6

DOHRMANN K. PISCHEL, M.D.
San Francisco

The Use of the Light Coagulation Machine of Zeiss as Described by Meyer-Schwickerath

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COURSE 235

Room 752 Period Th-4

M. HAYWARD POST, JR., M.D.
St. Louis

Refinements of Refraction: Methods and Measures for Meeting the Problems Encountered

This discussion will be based upon practical experience; therefore, the mathematics of optics will be discussed only as necessary. The basic principles of refraction are presumed to be understood. Nevertheless, a brief outline of the principal methods is in order.

In general, the methods of refraction may be divided into the objective and subjective methods.

Objective Methods

1. Retinoscopy and its complications. The various types: cycloplegic, noncycloplegic, dry and dynamic.
2. The keratometer and its limitations. Its use in high astigmatism and aphakia.

Subjective Methods

1. The astigmatic dial. Instruction to the patient of major importance. Fogging and its relation to the conoid of Sturm.
2. The cross cylinder. Method of application. Its use should follow retinoscopy, or the use of the astigmatic dial. Can lead to considerable difficulty, if used as a primary method.

Specific Problems

1. Motor anomalies. Esophoria and exophoria will be discussed briefly.
2. Vertical imbalance. Methods for determining the amount and correction.
3. Aniseikonia. While eikonic lenses will not be considered in this discussion, the primary considerations concerning the proper position of the lenses before the eyes will be emphasized.
4. Aphakia. Specific problems of refraction will be considered, and the type of lenses which should be used. Special consideration will be given to the problems of not only monocular, but bilateral, aphakia. In this connection, contact lenses will be discussed and the optical problems involved.

Random Comments

Certain complications will be met in measuring the eyes of various types of individuals, such as the mentality, inattention during examination, fatigue, the employment of the patient, macular or perimacular lesions, amblyopia, et cetera. The use of the refractor will be discussed. Its advantages and disadvantages will be pointed out.

Ocular Neuroses

These will be considered very briefly, stressing the responsibility of the physician to recognize the difference between the symptoms resulting from actual errors of refraction and those of emotional origin, that often closely resemble them. These latter will include a differentiation of psychoneurotic from psychosomatic individuals.

COURSE 236

Crystal Room Period M-5

ALGERNON B. REESE, M.D.
New York

Cataract Extraction

There will be a general discussion of the subject from various aspects which the author feels need emphasis. These include the cause and control of vitreous pressure; the recognition and handling of deviations from the usual at the time of extraction; the diagnosis, as well as combating untoward occurrences, early and late, in the postoperative course; the cause and treatment of poor postoperative vision; and postoperative glaucoma. Adequate time will be devoted to a discussion of the operation for congenital cataract.

COURSE 237

Room 711 Period W-5

C. WILBUR RUCKER, M.D.
Rochester, Minn.

Paralysis of the Ocular Motor Nerves: Its Significance and Pathogenesis

A pictorial demonstration of the relationships of the third, fourth and sixth cranial nerves to neighboring structures will be presented, to be followed by presentation of several case histories in which there was ocular motor paralysis. These will form the basis for a discussion of the diagnostic significance and the pathogenesis of the paralyses.

COURSE 238

Room 722 Period T-4

A. D. RUEDEMANN, JR., M.D.
Detroit

Surgery of Vertical Muscles

COURSE 239

Room 781 Period M-5

WALTER Z. RUNDLES, SR., M.D.
Flint, Mich.

Streak Retinoscopy

COURSE 240

Room 724 Period M-6

RALPH O. RYCHENER, M.D.
Memphis

The Lacrimal Apparatus

This course will present a general review of the lacrimal apparatus, with special emphasis on the treatment of some of the minor but rather troublesome phases encountered in private practice, as well as the more dramatic and quite satisfactory methods of tear sac surgery. The office management of congenital stenosis and the more popular techniques of dacryocystorhinostomy will be fully illustrated with slides.

COURSE 241

Room 713 Period T-6

ALEJANDRO SALLERAS, M.D.
Buenos Aires, Argentina
BY INVITATION

Corneal Surgery

Corneal Wounds
Surgical Repair

Corneal Grafts
Indications and selection of cases (slides): Donor material and its preservation
Surgical technique of penetrating grafts (film)
Surgical technique of lamellar grafts (film)
Common complications of both types of grafts
Comment on results of both types of grafts
Instruments used by the author in keratoplasty
Retransplants

Keratectomies
Indications, technique, and results

Implant of Plastic Corneas
Indications, technique (film), and results

Corneal Paracentesis
Indications and technique

Refractive Surgery of the Cornea
Sato's operation
Barraquer's operation

COURSE 242

Room 706 Period T-6

J. ALBERT SARRAIL, M.D.
San Francisco

Lid Surgery

The course is designed for those who wish to review the fundamentals of lid surgery. The following topics will be covered:

I. Tarsorraphy, temporary and permanent

II. Traumatic lesions
  a. Repair of lid borders to prevent lid notching
  b. Repair of canthal ligaments with involvement of canaliculi
  c. Correction of displaced internal and external canthi

III. Entropion—Butler procedure

IV. Ectropion—Paralytic (Kuhnt-Szymanowski operation)

V. Ptosis
   a. Modified Blascovic procedure with partial acting levator
   b. Modified Reese procedure with complete ptosis

The lecture will be illustrated with a motion picture slide.

COURSE 243

Room 781 or Room 795 — Period M-4 or Period T-6

HERMAN D. SCARNEY, M.D.
Detroit

Slit Lamp Biomicroscopy: Its Value in Office Diagnosis

The expensive initial investment in a biomicroscope, which has come to be recognized as an indispensable part of the examining equipment of the clinical ophthalmologist, can return many dividends in accuracy of diagnosis and prognosis, and in indications of possible procedure in treatment afforded by no other means.

The value of routine biomicroscopy in office diagnosis will be emphasized by presenting a series of kodachrome slides illustrating fairly common lesions of the lids, conjunctiva, cornea, anterior chamber, iris and lens. Biomicroscopy of the fundus with the Hruby lens will also be discussed.

COURSE 244

Room 732 or Room 722 — Period M-6 or Period T-5

HAROLD G. SCHEIE, M.D.
Philadelphia

Congenital Glaucoma: Surgical Procedures

The surgical treatment of juvenile and infantile glaucoma will be discussed. The development of goniopuncture and the results obtained with this treatment in cases of juvenile glaucoma will be presented. The author's method of goniotomy for infantile glaucoma will be illustrated by slides and a motion picture. An analysis of the results obtained from goniotomy, goniopuncture, and a combination of the two will be made.

COURSE 245

Room 738 — Period T-6

ABRAHAM SCHLOSSMAN, M.D.
New York

Pleoptics

Pleoptics is the greatest advance in the treatment of amblyopia in recent years, and it is especially valuable in the treatment of patients with eccentric fixation. The theoretic principles of this form of therapy will be briefly discussed, but most of the session will be devoted to the practical details of pleoptics. The methods of Bangerter and Cuppers will be compared. Diagnosis of eccentric fixation with the Visuscope will be demonstrated, and the use of the Euthyscope and Coordinator will be considered in detail. The value of other instruments, such as the Pleoptophor, Localizer, Corrector, and Mnemoscope Trainer, will be briefly pointed out. The concept in amblyopia of a defect of separation acuity and its treatment will also be presented.

COURSE 246

Room 732 — Period W-6

JAMES S. SHIPMAN, M.D.
Camden, N. J.

Scleral Resection

1. The indications for this operation as a primary procedure:
   a. Failure of the detached retina to settle back in place with bed rest
   b. High myopia
   c. Aphakia
   d. Retinal folds or vitreous bands
   e. Failure of less formidable methods

2. Preoperative study and preparation of the patient

3. Operative procedure:
   a. Partial or lamellar type of resection less hazardous and preferable

b. Anatomic landmarks on sclera, such as position of vortex veins, macula, recti, and oblique muscles
c. Position, size and shape of the area of sclera to be resected
d. The operative technique will be illustrated with slides, showing each step from beginning to end and a new technique of folding in portion of sclera

4. Postoperative treatment and management, complications, and results

A new procedure, an enfolding of the sclera, as done by the author is described and illustrated with slides and a motion picture.

COURSE 247

Room 744 Period M-5

G. VICTOR SIMPSON, M.D.
Washington, D. C.

Hemorrhage Into The Vitreous: Diagnosis and Management

Hemorrhage into the vitreous is frequently the initial sign of a serious eye disease. It is with the diagnosis and management of vitreous hemorrhage in such circumstances that this course is concerned.

Massive hemorrhage into the vitreous is readily recognized, but the blurring of vision from a mild hemorrhage must be distinguished from (1) rupture of a peripheral retinal cyst, (2) separation of a rosette from the peripheral retina, (3) rupture of the posterior hyaloid from its attachment at the optic nerve, and (4) subacute uveitis. The points of differentiation from the above will be discussed.

Hemorrhage into the vitreous may be caused by a number of ocular and systemic conditions. An outline of these conditions will be given.

Treatment to aid absorption of blood from the vitreous, and specific treatment, when available, to prevent recurrences will be discussed during the hour.

COURSE 248

Room 721 Period T-5

BYRON SMITH, M.D.
New York

Fractures of the Orbit

The mechanism of orbital fractures and its relationship to the resulting deformity will be discussed in detail. Symptoms, signs, roentgenographic findings, diagnosis and treatment will be outlined. Late complications of malunited fractures and the sequence of indicated treatment will be demonstrated in slides and with motion pictures. The late surgical procedures consist of dacryocystorhinostomy, medial canthoplasty, bone grafting, fascial implantation, and oculorotary and ptosis corrections.

COURSE 249

Room 706 Period T-4

M. PUIG SOLANES, M.D.
Mexico, D. F.
BY INVITATION

Surgery of Ocular Cysticercus

Cysticercosis is now under control in most of the Western World but it has not been completely eradicated and cases may sporadically appear. Although very rare cases of intraocular cysticercosis—with transparency of the ocular media after several years have been reported, the prognosis of the disease is indeed poor: after several weeks or months vision is totally lost and ocular structures deeply impaired by the aggressive action of the parasite and its toxins. Surgical removal of the parasite is obviously imperative. Any other procedure, including chemotherapy, electrolysis, coagulation, radium, etc., will fail. Even if these methods sometimes kill the parasite an inflamatory reaction appears producing severe damage to the ocular tissues with subsequent loss of vision.

The technique for removal of intraocular cysticercus is discussed in the course and shown in a film.

COURSE 250

Room 713 Period M-6

EDMUND B. SPAETH, M.D.
Philadelphia

Plastic Surgery: Practical Aspects

This course is designed to consider the plastic correction of those defects of

the eyelids and of the orbit which result from the surgical treatment of malignant lesions of these structures.

The course does not have as its primary purpose the treatment of malignant lesions, though that aspect of the basic subject must be considered; the primary purpose of the course is to discuss the practical aspects of ophthalmic plastic surgery.

There are three general subdivisions of the subject: (1) lid margin defects; (2) major lid reconstructions with an intact functioning eyeball; and (3) lid and socket defects when the eyeball has been exenterated.

COURSE 251

Room 702 Period T-4

EDMUND B. SPAETH, M.D.
Philadelphia

Complicated Ptosis: Selection of Operation

Cases of congenital ptosis which are accompanied by ocular conditions other than drooping of the lids will be considered. Fifty per cent of the cases of congenital ptosis have, in addition to the levator paralysis, congenital involvements of one or more of the other ocular muscles. Other complications may be blepharophimosis and epicanthus, the jaw winking reflex, and differences in the length and position of the lid margins.

The sequence of the surgical procedures for the correction of the various facets of this symptom complex is rather important. The subject matter of this instruction course is planned to cover these necessary operations.

COURSE 252

Room 740 Period T-5

PHILIP G. SPAETH, M.D.
Philadelphia

PAUL L. CARMICHAEL, M.D.
Lansdale, Pa.

Ocular Tumors: Differential Diagnosis and Treatment

A classification of tumors of the globe, including cornea, uveal tract, retina, and optic nerve as well as metastatic lesions, will be given.

There will be emphasis on the multiple facets of diagnosis including ophthalmoscopy, binocular ophthalmoscopy, biomicroscopy, transillumination, campimetry, x-ray, and radioactive isotopes.

The practical application of radioactive isotopes in the diagnosis of intraocular and extraocular lesions will be discussed with relationship to type of lesions, age of patient, and interpretation of the tests.

A discussion of therapy, including radiotherapy, chemotherapy, diathermy, surgery, and expectant treatment will be included.

COURSE 253

Room 740 Period W-4

ELLIS H. STEFFENSEN, M.D.
Detroit

Senile Macular Degeneration: Current Therapy

The pathology of senile macular degeneration will be briefly presented. The results obtained from newer therapeutic measures will be analyzed and current concepts of therapy will be discussed.

COURSE 254

Room 740 Period T-4

H. SAUL SUGAR, M.D.
Detroit

Classifications of Glaucoma

The classifications of glaucoma introduced by von Graefe and modified by Gradle, Barkan, Maumenee and Sugar will be discussed in detail. A discussion of the reasons for the latter classification will ensue.

COURSE 255

Room 724 Period T-6

FREDERICK P. SUTLIFF, M.D.
Philadelphia

Practical Fitting of Contacts

The indications and contraindications for use of corneal lenses will be dis-

cussed. The technique of ophthalmometry and conversion of ophthalmometer readings to radius of curve will be outlined. The technique of refraction with the trial lens will be detailed. Instructions to the patient on removing and inserting corneal lenses will be demonstrated using corneal lenses. The wearing schedule will be discussed. The writing of the prescription to order the lens will be demonstrated. The management of patient problems following the dispensing of the corneal lenses will be discussed.

COURSE 256

Room 784 Period W-6

EDWIN C. TAIT, M.D.
Norristown, Pa.

Heterophoric Asthenopia: Evaluation and Treatment

This discussion is designed to illustrate the limitations of the Duane-White classification when considering therapy for neuromuscular anomalies. An alternate classification, which simplifies the interpretation of the possible findings and allows a more rational approach to the selection of therapy, will be presented.

COURSE 257

Room 731 Period W-6

I. S. TASSMAN, M.D.
Philadelphia

Eye Involvement in Systemic Diseases

Many of the systemic diseases may either cause or be accompanied by an eye disorder. Such diseases may be classified as congenital, hereditary, heredofamilial and acquired. In a number of instances the eye condition may be quite severe.

Those conditions which are of greatest importance to the ophthalmologist will be presented and discussed.

COURSE 258

Room 734 Period M-6

FREDERICK H. THEODORE, M.D.
New York

Ocular Therapeutics

An appreciation of the potentialities and the limitations of the agents at our disposal is a prerequisite for effective therapy. Many new and potent drugs are now widely used in ocular therapeutics. Valuable as they are, their introduction has posed therapeutic problems other than the dangers from injudicious use.

A practical clinical approach will be made to the treatment of external diseases of the eye, with a critical evaluation of those drugs, both old and new, currently used for this purpose. The action of the drugs, indications and specific contraindications for their use, the capricious behavior and unreliability of some of them, and methods for their application will be considered in detail. The importance of vehicles in general, the choice of appropriate ones, and specific problems and dangers inherent in the prescribing of ophthalmic drugs will be stressed. The necessity for differentiating drug reactions due to allergy from drug reactions due to irritations will be discussed from the therapeutic point of view. General principles concerning the treatment of ocular eczemas will be outlined. The entire lecture will be illustrated by kodachrome lantern slides of clinical cases.

COURSE 259

Crystal Room Period T-4

FREDERICK H. THEODORE, M.D.
New York

External Diseases and Allergy

Because ocular allergies often resemble inflammations of nonallergic origin, such as bacterial and viral infections or reactions to direct primary irritants, on many occasions allergy is not recognized when it is present, or is erroneously diagnosed when it does not exist. Therefore, unless each case is properly evaluated, serious problems in the management of these patients may arise, problems that modern-day therapy may aggravate rather than resolve. This course will differentiate the various types of allergic and other inflammatory conditions affecting the outer eye.

COURSE 260

Room 795 Period W-6

ROBERT I. TRENT, M.D.
Oklahoma City

Progress in Ophthalmology: Including Medical and Surgical Therapy and Cyclotherapy

The following topics will be discussed:

1. Angiospasm of the retinal artery with macular edema
2. Corneal erosions—unusual etiology
3. Reading difficulties—their treatment
4. Ocular migraine
5. Methods of preschool eye examinations and their value
6. Blepharospasm
7. Preparing children and adults for wearing various types of glasses
8. Preparing the patient and his relatives preoperatively and postoperatively
9. Various methods of therapy for patients with senile macular degeneration, other forms of ocular degeneration, and incipient types of cataract and glaucoma
10. Treatment by assistants or associates supplementary to surgical operation
11. Approach of the ophthalmologist to the first visit of the very young child

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COURSE 261

Room 724 Period T-5 or W-6

ALFRED UIHLEIN, M.D.
Rochester, Minn.
BY INVITATION

Neuralgias of the Head: Treatment

Most of the pain about the head and face can be outlined along definite nerve pathways. The most logical treatment is to eradicate the cause, but all too frequently this is impossible. Neuralgia should be distinguished from neuritis. The former is a sharp, intermittent pain along the distribution of a given nerve. Neuritis, on the other hand, produces pain that is continuous and lancinating and frequently is accompanied by tenderness, paresthesia; or anesthesia; motor paralysis is present if a mixed nerve is involved. For simplicity in diagnosis and treatment, the neuralgias of the head can be divided into minor and major types. The diagnosis and treatment of facial pain in relation to the major and minor neuralgias will be reviewed and illustrated by slides.

COURSE 262

Room 738 Period W-6

DERRICK VAIL, M.D.
Chicago

Senile Cataract: Mechanical Factors of Surgery

This course will consist of a description and discussion of the various methods and techniques of cataract surgery, with emphasis on the mechanical principles involved. Time will be devoted to the various steps performed during the operation, leaving out the preoperative and postoperative care of the patient. Principles of various types of incision, instrumentation, a discussion of suture material, and principles of wound healing that have a bearing on the type of incision used will be emphasized. Particular attention will be paid to the application of forceps or erysiphake to the capsule of the lens, and the various types of delivery of the lens will be mentioned. The course will be illustrated with slides and motion pictures.

COURSE 263

Room 740 Period M-5

CLARENCE A. VEASEY, JR., M.D.
Spokane, Wash.

Refraction Difficulties

In this consideration of refraction difficulties it has been assumed that glasses have been prescribed and found correct, and that the patient is still unhappy. Sources of discomfort considered include adjustment requirements for distance and near, necessary decentration of plus lenses, necessity of tilting, which requires a change in the optical center. Tilting induces an increase in sphere and cylinder. This can be calculated and allowed for.

Vertex distance is the distance between the cornea and posterior surface of the corrective lens. When vertex distance in the finished glasses differs from that of the trial frames, a change in strength of both sphere and cylinder is necessary and is calculated by a simple method. Anisometropia induces false hyperphoria resulting from the prismatic effect of compound lenses. Method of calculating the amount of prism in any sphere-cylinder combination at any axis and the resultant hyperphoria is explained. Methods of overcoming induced hyperphoria include change in adjustment, compensated segments, bicentric grinding and prisms.

Also considered are the relationship of convergence and accommodation, special problems of aphakia and multifocal lenses. All calculations will involve arithmetic only and inspection of tables. Illustrated by lantern slides. The tables essential to applying the principles elucidated in this course can be obtained in the author's instruction monograph. "Refraction Difficulties," published by the Academy.

COURSE 264

Room 740 Period M-4

EVERETT R. VEIRS, M.D.
Temple, Texas

External Dacryocystorhinostomy and Corrective Procedures for Epiphora

The diagnosis and treatment of lacrimal disorders will be presented.

External dacryocystorhinostomy will be described in detail and illustrated by a motion picture and lecture slides.

The causes and correction of epiphora in the various age groups will be discussed. Corrective procedures will be illustrated, particularly stressing epiphora in the aged.

COURSE 265

Room 740 Period W-5

SAMSON WEINGEIST, M.D.
Long Island City, N. Y.

Lacrimal Sac Surgery

Surgical operations on the lacrimal sac, particularly dacryocystorhinostomy ab externo, will be discussed step by step, stressing correct anesthesia, local or general, proper illumination of the operative field, simple instrumentation and hemostasis. An easy way to procure a large bony window (dealing with ethmoid cells, if encountered) in order to secure permanent drainage will be outlined. The simple placement of posterior and anterior sutures to anastomose the nasal mucosa with the lacrimal sac will be shown.

Indications, contraindications and complications will be discussed.

Emphasis will be placed on the simplification of the difficulties that many general ophthalmologists encounter.

Slides and a film in color will be shown.

COURSE 266

Room 781 Period M-6

C. WILLIAM WEISSER, M.D.
Pittsburgh

Repair of Corneal Injuries

Corneal injuries will be classified and methods and examples of treatment will be shown. Replacement of prolapsed iris, methods of suturing, as well as aftercare, will be described. Use of antibiotics, steroids, fibrin film and other new and old medications will be discussed.

COURSE 267

Room 713 Period W-4

JOHN P. WENDLAND, M.D.
Minneapolis

Magnetic Intraocular Foreign Bodies

Magnetic intraocular foreign bodies will be discussed under the following headings: (1) diagnosis, (2) localization, (3) preoperative treatment, (4) surgical approach, (5) complications, and (6) postoperative treatment. Particular stress will be placed upon the use of the Berman locator and its new curved probe in the localization of these intraocular foreign bodies during surgical procedures, and upon the techniques for removal of these foreign bodies in different locations in the globe.

Slides and a motion picture will illustrate the discussion.

COURSE 268

Room 722 Period W-4

HORACE L. WESTON, M.D.
Detroit

Astigmatism: Clinical Measurement

The various methods of measuring astigmatism depend upon two simple optical principles. An examiner who understands these principles can use several astigmatism tests with facility and will find that he is better prepared both to handle problem cases and to verify his findings by counterchecking.

In this course the effect of obliquely crossed cylinders will be discussed in relation to the determination of the astigmatic axis by the retinoscope, cross cylinder, and astigmatic dial. The proper manipulation of the astigmatic conoid of Sturm will be shown to be the basis for measuring the amount of astigmatism by each of these methods.

COURSE 269

Room 733 Period Th-4

GEORGE N. WISE, M.D.
New York

Retinal Vascular Disease: Its Mechanism and Therapeutic Indications

The embryologic background and the mechanism of new vessel formation in certain vascular diseases of the mature retina will be discussed first. Therapeutic indications, reasons for some therapeutic failures, and indications for new approaches in treatment will be analyzed. Kodachrome slides will be shown.

COURSE 270

Room 726 Period T-4

EVERET H. WOOD, M.D.
Albuquerque, N. M.

Macular Lesions: Early Diagnosis and Treatment

The lecture will consist of a brief review of the embryology, anatomy and physiology of the macular region, followed by a discussion of some of the more common and disturbing lesions in this area. Particular emphasis will be placed on the handling of these lesions in the aging patient. The course will be illustrated by kodachrome and black-and-white slides.

CONTINUOUS COURSES — OTOLARYNGOLOGY

COURSE 301

Room 716 Periods T-1, T-2

JACK R. ANDERSON, M.D.
New Orleans

Rhinoplasty: Practical Considerations

A two-period course—$4.00

The purpose of this course is to present certain features of technique—some original, some adopted from others—which have facilitated the performance of rhinoplasty and have contributed to improved and more predictable results. In addition, details of preoperative preparation and postoperative care which have effected a marked decrease in morbidity following the operation will be discussed.

COURSE 302

Room 726 Periods Th-2, Th-3

HELMUT BLUMENTHAL, M.D.
Chicago

Ocular Conditions Associated with Otolaryngology

A two-period course—$4.00

1. Surface and deep orbital anatomic structures
2. Ophthalmic displacement in fronto-ethmoid lesions, lacrimal gland lesions, and lesions from maxillary sinus
3. Orbital apex syndrome
4. Optic neuritis
5. Relationship of eye and orbit to malar bone, zygomatic arch and antral fractures

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COURSE 303

Room 740 Periods T-2, T-3

DAVID W. BREWER, M.D.
and
F. BERTRAM BRIESS, M.D.
BY INVITATION
Syracuse, N. Y.

Head and Neck Symptoms Associated with Laryngeal Microtrauma: Diagnosis and Management

A two-period course—$4.00

Many otolaryngologists are required daily to evaluate patients with such head and neck symptoms as pain in the neck referred to the ear, dry throat, frequent throat clearing, lump in the throat, tickle and cough, etc. The association of intermittent or persistent voice changes are often omitted by the patient.

Changing techniques of laryngeal examination, both operative and functional, now uncover more easily the causes of an underlying dysphonia. Audible and/or visible lesions due to repeated laryngeal microtrauma type-specific for chordal fibroma, polyps, edema and granuloma are discussed.

Proper testing techniques leading to accurate diagnosis are supported by relief of symptoms during specific therapy of the responsible neuromuscular mechanism and are carefully outlined in this course.

COURSE 304

Room 724 Periods W-1, W-2

COURSE 305

Room 724 Periods Th-1, Th-2

JOHN J. CONLEY, M.D.
and
MAURICE LENZ, M.D.
BY INVITATION
New York

Carcinoma of the Head and Neck: Diagnosis and Treatment

A two-period course—$4.00

This two-hour course is being presented twice, as Course 304 on Wednesday and as Course 305 on Thursday. **Please select course number according to day on which you wish to attend.**

The course includes an analysis of cancers involving all the major systems of the head and neck area: the various types of malignant tumors involving the epithelium, sinuses, ears, lips, tongue, buccal mucosa, palate, nasopharynx, floor of the mouth, hypopharynx, parotid gland, cervical lymphatics, thyroid gland and cervical esophagus (larynx intentionally omitted because of its inclusion in other courses).

A discussion of the diagnosis of these malignant tumors will be based on the pertinent factors in the history, physical examination, roentgenograms, chemical tests, and various biopsy techniques relative to each case.

Emphasis will be placed on the use of supervoltage in the treatment of malignant tumors of the head and neck.

A discussion of treatment will include the curative effects of various types of surgery and irradiation and combinations of these two techniques. It will also include the worth-while palliative efforts in the management of incurable cancer by surgery, irradiation or combinations of these techniques.

COURSE 306

Room 731 Periods T-2, T-3

JOHN MARQUIS CONVERSE, M.D.
New York

Principles of Nasal Plastic Surgery—Basic

A two-period course—$4.00

The main steps in the typical corrective nasal plastic operation will be reviewed. The course will be illustrated by slides and motion pictures.

COURSE 307

Room 731 Periods Th-2, Th-3

JOHN MARQUIS CONVERSE, M.D.
New York

Principles of Nasal Plastic Surgery—Advanced

A two-period course—$4.00

This course is more advanced than the preceding one and deals with conditions such as nasal deviations and saddle nose, in addition to the main steps in the typical corrective nasal plastic operation.

COURSE 308

Room 721 Periods T-1, T-2

COURSE 309

Room 721 Periods W-1, W-2

JOHN F. DALY, M.D.
and
MILTON FRIEDMAN, M.D.
BY INVITATION
New York

Cancer of the Head and Neck

A two-period course—$4.00

This two-hour course is being presented twice, as Course 308 on Tuesday and as Course 309 on Wednesday. **Please select course number according to day on which you wish to attend.**

Advances in surgery and new forms of radiation therapy have opened up new approaches to the problems of head and neck cancer. They have also created the need for principles and guides in their application, either alone or in combination. The course aims at presenting practical applications of surgery, supervoltage, cobalt therapy and conventional K.V. and needle therapy, based upon the experience at the New York University-Bellevue Medical Center. Case presentations will be used to illustrate methods and techniques. Cancer of the principal areas of the head and neck will be covered.

COURSE 310

Room 724 Periods T-2, T-3

MEYER S. FOX, M.D.
Milwaukee

ARAM GLORIG, M.D.
Los Angeles

Noise in Industry

A two-period course—$4.00

Topics for Discussion

1. The physical aspects of noise, its measurement, and its effect upon man
2. The medical aspects of hearing loss due to noise exposure
3. The determination of hearing loss and hearing disability resulting from noise exposure
4. The medical-legal aspects of noise deafness
5. Hearing conservation programs in industry

This course has been planned for otolaryngologists who are actively engaged in hearing conservation programs in industry and for any others who are interested in the industrial noise problem. The presentation will consist of an informal panel discussion by members of the Subcommittee on Noise in Industry who have been very active in the field of industrial noise. Emphasis will be placed upon practical measures and a realistic approach to the problem. The presentation will be supplemented by charts, slides and tape recordings taken from actual industrial situations.

Those planning to attend this course who have questions regarding particular problems which they wish to have discussed should submit them by mail or in person before the conference begins. A question period will be provided, and an opportunity will also be afforded anyone in attendance who may wish to relate his experiences in meeting various problems in the field of industrial noise.

COURSE 311

Room 726 Periods T-1, T-2

COURSE 312

Room 716 Periods W-2, W-3

EMIL FROESCHELS, M.D.
HELEN BEEBE
New York
BY INVITATION

Speech and Voice Therapy in Partnership with Otolaryngology

A two-period course—$4.00

This two-hour course is being presented twice, as Course 311 on Tuesday and as Course 312 on Wednesday. **Please select course number according to day on which you wish to attend.**

This course will deal with physiology, pathology and therapy of human voice and speech. Since the voice is closely connected with speech, some instruction will be given on speech and on some speech disturbances, for example, hyperrhinolalia (cleft palate speech) and stuttering. Among the voice disturbances, special consideration will be given to those either deriving from or connected with paralysis of the vocal cords. Such paralyses can result not only from thyroidectomy but also from internal causes. A method to differentiate between acute and chronic cases will be shown. Therapeutic methods will be thoroughly discussed.

COURSE 313

Room 712 Period T-2, T-3

Z. Z. GODLOWSKI, M.D.
Chicago
BY INVITATION

I. Physiopathology of the Endocrine System

II. Enzymatic Mechanism of Allergy as Related to Hormonal Action

A two-period course—$4.00

I

1. Relationship of hypothalamus to autonomic nervous system, endocrine glands and target cells
2. Primary and secondary endocrine disorder: therapeutic and diagnostic importance
3. Strategic position of anterior pituitary lobe and thyroid gland in clinical symptomatology
4. Questions and answers

II

1. Enzymes, their action and their relationship to hormones
2. Enzymatic diseases: enzymatic mechanism of allergy
3. Self-termination of allergic reactions, desensitization by low-dosage method of antigen as seen in enzymatic mechanism of allergy
4. Practical conclusions in antiallergic therapy in office practice based on enzymatic mechanism of allergy
5. Questions and answers.

COURSE 314

Room 712 Periods Th-2, Th-3

Z. Z. GODLOWSKI, M.D.
Chicago
BY INVITATION

Endocrinopathies: Management of Subclinical and Clinical Forms in Office Practice

A two-period course—$4.00

Diagnosis

1. Diagnostic evaluation by physical examination
2. Choice of laboratory tests and their interpretations
3. Questions and answers

Therapy

1. Advantages and disadvantages of "single" and "multiple" therapeutic agents
2. Etiologic therapy in hormonal disorders
3. Substitution therapy in hormonal disorders
4. Antiphogistic value of adrenocortical steroids
5. Adjustment of emotional disorders in hormonal disorders related to allergic reactions
6. Questions and answers

COURSE 315

Room 712 Periods W-1, W-2

FREDERICK R. GUILFORD, M.D.
WILLIAM K. WRIGHT, M.D.
Houston, Texas

Permeatal Otologic Surgery

A two-period course—$4.00

It is our purpose to review our experience with the permeatal approach to surgery of the external auditory canal, middle ear and mastoid antrum. The majority of the work has been done directly through the meatus of the external auditory canal without an external incision (permeatal approach), but a small T incision is occasionally required in the roof and posterior wall of the canal in order to attain better visualization. The main subject for consideration will be the techniques and results of stapes mobilization and tympanoplasty. However, additional discussion will include the technique of the hypotympanic approach for tumors of the glomus jugulare and the permeatal approach (Tumarkin) for cholesteatomas of the epitympanic area and mastoid antrum. The permeatal approach for the removal of exostosis of the external auditory canal will also be considered. Slides and motion pictures will be used as instructional aids.

COURSE 316

Room 711 Periods W-1, W-2

COURSE 317

Room 711 Periods Th-1, Th-2

FRENCH K. HANSEL, M.D.
St. Louis

Allergy and Medical Otolaryngology

A two-period course—$4.00

This two-hour course is being presented twice, as Course 316 on Wednesday and as Course 317 on Thursday. **Please select course number according to day on which you wish to attend.**

The problems of medical otolaryngology are varied, multiple and ever changing. In many instances the indications for surgical interference must be evaluated only after medical treatment and observation. The management of the patient, therefore, is directed to the consideration of disease and loss of function which affect the ears, nose and throat, and related structures. These problems concern allergy, infection, immunity, anemia, malnutrition, dental caries, effects of tobacco and alcohol, endocrine deficiencies, loss of function as manifested by vascular headaches, vertigo and tinnitus, deafness, psychosomatic disturbances and other related conditions.

COURSE 318

Room 711 Periods T-1, T-2

FRED HARBERT, M.D.
Philadelphia

Clinical Audiology

A two-period course—$4.00

The usual and exceptional findings in the three types of deafness, conductive, nerve, and end organ, will be outlined and discussed. Basic principles responsible for these findings will be emphasized, making liberal use of slides illustrating cases which demonstrate these principles. The role of tuning forks, pure tone audiometry, and speech audiometry will be considered from a practical standpoint.

Bone conduction, masking and recruitment will be particularly stressed, main-

ly by illustrative cases. The main consideration will be diagnosis and the need for various rehabilitative procedures as indicated by diagnostic findings.

COURSE 319

Room 713 Periods T-2, T-3

COURSE 320

Room 713 Periods W-2, W-3

WILLIAM G. HARDY, Ph.D.
MIRIAM D. PAULS, Ph.D.
Baltimore
BY INVITATION

Clinical Audiology for Young Children

A two-period course—$4.00

This two-hour course is being presented twice, as Course 319 on Tuesday and as Course 320 on Wednesday. **Please select course number according to day on which you wish to attend.**

With infants and preschool children, particularly those with delayed speech, special techniques must be used to evaluate the hearing function and its relation to the child's development and behavior. Several techniques (employing calibrated toys and noise-makers, tuning forks, pure tone and speech audiometry, masking, and the like) will be considered in detail. These range from what is useful in ordinary office practice to procedures involving special facilities.

Particular attention will be given to current "objective" procedures whereby a child is conditioned to respond to test sounds. Some details of management will be discussed, and there will be consideration of the relation between various causal factors and test findings and the development of language and speech in the child.

COURSE 321

Room 715 Periods Th-1, Th-2

ANDERSON C. HILDING, M.D.
Duluth, Minn.

Physiology of Hearing and the Practicing Otologist

A two-period course—$4.00

Despite the fact that many theories of hearing have been advanced during the past 300 years, no one has yet demonstrated conclusively how we hear. The etiology and pathology of some of the commonest ear complaints are unknown.

In an attempt better to understand the internal ear, the normal anatomy of this structure, as it is presently understood, will be briefly described preparatory to discussing some intensive studies in dissection of the cochlea. These studies elucidate some of the characteristics and anatomic relations of the tectorial membrane and the motion of the cochlear partition. An attempt will be made to answer two questions which are always asked whenever a theory of hearing is postulated: (1) How does stimulation of the hair cells actually take place? (2) How is the stimulation localized when the whole cochlea and everything within it is vibrating with forced vibration in response to sound?

The concepts which will be presented in explanation of these questions have immediate application in the pathology of perception deafness in general and in acoustic trauma in particular. The 4096 dip, characteristic of the initial perception type of deafness, may be explained on this basis. There are some preventive measures suggested by these findings.

COURSE 322

Crystal Room Periods W-1, W-2

HOWARD P. HOUSE, M.D.
WILLIAM F. HOUSE, M.D.
Los Angeles

Surgery for Chronic Ear Disease and the Concept of Tympanoplasty

A two-period course—$4.00

The changing concept of surgery for chronic ear disease will be discussed, with emphasis on hearing restoration.

The indications for surgical intervention and the techniques used to carry out this changing concept with regard to tympanoplasty will be presented and fully illustrated.

The importance of proper and adequate postoperative care will be stressed.

COURSE 323

Room 731 Periods W-2, W-3

VARAZTAD H. KAZANJIAN, M.D.
Boston

JOHN MARQUIS CONVERSE, M.D.
New York

EDGAR M. HOLMES, M.D.
Boston

Traumatic Injuries of the Face

A two-period course—$4.00

The symposium on early treatment of facial injuries, to be held during the first period, will cover (1) emergency measures consisting of the control of primary hemorrhage, traumatic shock, and other necessary first aid measures; (2) local examination of lacerations and fractures of the face plus general physical examination; and (3) early treatment of soft tissues, primary and late primary suturing of lacerations, and the immobilization of fractures with special reference to fractures of the nasal, zygomatic and maxillary bones.

The second period will be utilized for a symposium on treatment of deformities of the face of traumatic origin, including discussion of (1) some general principles of reconstructive surgery of the face, and (2) repair of deformities involving soft tissues only, including (a) conspicuous scars without apparent loss of tissue, (b) defects with definite loss of tissue requiring use of pedicle or skin grafts, (c) special areas such as the eyelids and eyebrows, and (d) stenosis of the nasal passages.

COURSE 324

Room 716 Periods Th-2, Th-3

GEORGE KELEMEN, M.D.
Boston

Stapes Mobilization and Tympanoplasty: Surgical Pathology

A two-period course—$4.00

The mechanisms producing stapedial fixation will be discussed from the viewpoint of surgical accessibility. Otosclerosis and organization from inflammation are—contrary to congenital anomaly—not static, irreversible, but in incessant flow. The structure of a deformity as well as the interplay between a chronic-quiescent process and a re-infection have to be studied thoroughly to assure success of a topical rearrangement: a tympanoplasty. The properties of the normal and pathologic tissues involved in this kind of surgical rehabilitation will be analyzed; the possibilities of their employment and the limits of their usefulness will be investigated.

COURSE 325

Room 727 Periods T-1, T-2

COURSE 326

Room 727 Periods W-1, W-2

FRANK D. LATHROP, M.D.
MOSES H. LURIE, M.D.
BERNARD ZONDERMAN, M.D.
Boston

Your Otological Problems

A two-period course—$4.00

This two-hour course is being presented twice, as Course 325 on Tuesday and as Course 326 on Wednesday. **Please select course number according to day on which you wish to attend.**

This course is presented as an informal discussion of problems of any nature in the field of otology. Since dizziness, deafness, and secretory otitis media often pose problems of management, the first part of the allotted time will be spent in brief statements by various members of the panel concerning these subjects. The remainder of the time will be occupied by questions and answers and a general discussion of otologic treatment. It is hoped that all who register for this course will participate in the questions and answers and general discussion. Furthermore, it is hoped that no one will fail to ask a question because it is thought that the problem is too insignificant. All problems assume great magnitude when the answer is not known.

COURSE 327

Room 726 Periods W-2, W-3

MERLE LAWRENCE, Ph.D.
Ann Arbor, Mich.

Acoustic Principles in Middle Ear Surgery

A two-period course—$4.00

This course is an elementary explanation of the acoustico-mechanical properties of the middle ear apparatus. Those anatomic characteristics of the ear that provide for efficient transfer of air-borne sound vibrations to the fluids of the inner ear will be discussed, and the various ways in which structural alteration or disease processes can affect these middle-ear properties, together with the basic principles that must be adhered to in restoring adequate sound conduction, will be described.

The material covered will be divided into two parts. In part one, the normal actions of the middle ear as a mechanical transformer will be described, and the reasons for certain patterns of audiometric loss due to various pathologic conditions will be explained.

In part two, principles of middle ear reconstruction that can satisfactorily reestablish the mechanical principles that make the normal ear an efficient device will be evaluated, and the effects of different procedures on the resulting audiogram will be discussed.

COURSE 328

Room 722 Periods T-2, T-3

JOHN R. LINDSAY, M.D.
Chicago

Deafness and Dizziness of Vascular Origin

A two-period course—$4.00

Vascular lesions may affect the auditory and vestibular mechanisms either together or separately and in varying degrees. A lack of factual information as to the nature and location of these lesions has made the diagnosis and interpretation inadequate. A number of experiments on animals have been done in our laboratory which illustrate the possible effect of certain vascular lesions on function. A series of cases also has been selected to illustrate the various clinical types. The discussion will consist of a presentation of clinical types along with the evidence which has been obtained by experimentation.

COURSE 329

Room 722 Periods W-1, W-2

HERMAN SEMENOV, M.D.
Beverly Hills, Calif.

Ear, Nose and Throat Therapeutics Brought Up to Date

A two-period course—$4.00

COURSE 330

Room 715 Periods T-2, T-3

COURSE 331

Room 715 Periods W-2, W-3

KINSEY M. SIMONTON, M.D.
Rochester, Minn.

SCOTT N. REGER, Ph.D.
Iowa City

and

ALAN S. FELDMAN, Ph.D.
Syracuse, N. Y.
BY INVITATION

ROBERT E. KLOTZ, M.D.
Boston

What the Otologist Should Know About Hearing Aids

A two-period course—$4.00

This two-hour course is being presented twice, as Course 330 on Tuesday and as Course 331 on Wednesday. **Please select course number according to day on which you wish to attend.**

This will be an informal question-and-answer symposium on hearing-aid problems as they arise in daily otologic practice. The participants are invited to submit such questions as the following:

When does a hard-of-hearing patient need a hearing aid?

What are the comparative merits of bone and air conduction instruments?

What are the limitations of a hearing aid?

Which is the best hearing aid?

How should the patient go about getting a hearing aid?

What can the otologist do to combat high-pressure salesmanship?

COURSE 332

Room 722 Periods Th-2, Th-3

THEODORE E. WALSH, M.D.
St. Louis

What Can Be Done For Deafness

A two-period course—$4.00

The problems of relieving deafness, including the efficacy or failure of various forms of treatment and surgery, will be considered. The value of hearing aids and rehabilitation measures for cases which cannot be helped by medical or surgical means will be discussed. The apparent success of quackery will be explained. The members of the course are encouraged to submit questions and to join actively in an informal discussion of the subject.

INDIVIDUAL COURSES — OTOLARYNGOLOGY

COURSE 401

Room 716 Period W-1 or Th-1

VICTOR R. ALFARO, M.D.
Washington, D. C.

Fullness in the Ear: Differential Diagnosis

One of the commonest symptoms in otologic practice is fullness in the ear. This is usually thought to indicate that we are dealing with disorders of the conductive mechanism in the external canal, middle ear, or eustachian tube. Careful appraisal of patients with fullness in the ear, however, reveals that it is a very common symptom of early labyrinthine hydrops. In advanced labyrinthine hydrops the diagnosis is self-evident because of the involvement of the vestibular apparatus as well as the cochlea. Early recognition, therefore, is most important for the establishment of early therapy that will prevent the mild hydrops from becoming severe. The symptomatology, audiometric picture, differential diagnosis and treatment will be discussed.

COURSE 402

Room 722 Period W-3

FRANZ ALTMANN, M.D.
JULES G. WALTNER, M.D.
New York

Treatment of Meniere's Disease with Ultrasonic Waves

The basic principles and the technique of irradiation of the labyrinth with ultrasound will be discussed.

With a specially constructed applicator the ultrasound is given directly to the exposed bony lateral semicircular canal. This permits destruction of the vestibular portion of the labyrinth without damage to the cochlea.

The results of this treatment in patients with Meniere's disease which had been refractory to medical treatment will be analyzed. They are very satisfactory, since the preservation of hearing is far superior to that obtained with any other form of surgical treatment.

COURSE 403

Room 750 Period T-1

ALBERT H. ANDREWS, JR., M.D.
Chicago

Bronchial Function Testing

Pulmonary function studies furnish significant information to the bronchologist who is concerned with diagnosis and management of bronchopulmonary disease. Correlation of pulmonary function studies and bronchoscopic findings enables the bronchologist to better evaluate pathologic processes and altered physiology, and to supply chest physicians and surgeons with information, evaluations, and therapeutic procedures not otherwise possible.

The pulmonary function studies used in this presentation will comprise chest fluoroscopy and spirometric measurements of quiet breathing, vital capacity, and maximum breathing capacity. The spirometric tests are done with air and oxygen and after therapeutic procedures, such as bronchodilator drug administration and pressure breathing.

COURSE 404

Room 713 Period Th-1

D. HARBERT ANTHONY, M.D.
DANIEL F. FISHER, M.D.
Memphis

Hemorrhage of the Nose and Throat: Medical and Surgical Treatment

Twenty-four hours or more before surgical procedures, or soon after a controlled emergency hemorrhage, a full blood count, coagulation and bleeding time, and other blood tests are made to determine whether a hemorrhagic disease is present. Hemophilia and hereditary hemorrhagic telangiectasia will be considered. A good history and reliable laboratory tests may determine the best control treatments for an individual hemorrhaging patient. The following control treatments will be discussed and illustrated by slides:

1. Internal and local medication: (a) drugs, (b) nasal packings

2. Cautery: (a) chemical, (b) electric, (c) electric coagulation
3. Surgery: (a) in tonsillar hemorrhage, (b) artery ligation, (c) insertion of Foley catheter in hemorrhage after adenoidectomy, (d) insertion of Anthony-Fisher balloon to control postpharyngeal hemorrhage, (e) metal post-tonsillectomy compressor

The causes, symptoms, diagnosis, prevention and treatment of hemorrhagic shock will be discussed.

COURSE 405

Room 726 Period W-1

BEVERLY W. ARMSTRONG, M.D.
Charlotte, N. C.

Use of Vinyl Tubing in the Treatment of Chronic Secretory Otitis Media

In the past fifteen years we have observed an increase in the incidence of chronic secretory otitis media. It is the most common cause of impaired hearing in children. Experience in ventilating the middle ear with indwelling plastic tubing will be presented and the results analyzed. The lecture will be illustrated with a motion picture and lantern slides.

COURSE 406

Room 727 Period W-3

RALPH A. ARNOLD, M.D.
Durham, N. C.

Radiographic Diagnosis of Temporal Bone Lesions

Contiguous structures, such as the nasopharynx, intracranial contents, paranasal sinuses, and jaws, can all give symptoms referable to the ear. Physical findings relative to the ear point to the necessity of temporal bone evaluation radiographically. The following aspects of radiographic diagnosis will be discussed:

I. Routine views to show normal/abnormal anatomy: Laws, Towne (modified), MacMillan, right and left Stenver

II. In the temporal bone:
   A. Normal anatomy: infantile, juvenile, adult
   B. Cell types: infantile, diploid, pneumatic
   C. Distribution of cell groups
   D. Abnormal anatomy: congenital—agenesis (Treacher-Collins); developmental
   E. Pathologic changes: inflammatory (most common); destructive; neoplastic; metabolic

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COURSE 407

Room 706 Period Th-1

JOSEPH P. ATKINS, M.D.
Philadelphia

Diseases of the Trachea: Diagnosis and Management

The trachea constitutes an area in which diagnostic error is common. Many of the lesions simulate laryngeal difficulties but cannot be seen by the laryngologist. Roentgenographic studies of this area, likewise, frequently show no evidence of abnormality.

Some of the lesions which have produced diagnostic dilemmas will be discussed. Diagnostic methods, both radiologic and endoscopic, will be considered. Therapeutic measures will be outlined, including the role of tracheotomy and plastic correction of tracheal diseases.

COURSE 408

Room 722 Period Th-1

SHIRLEY HAROLD BARON, M.D.
San Francisco

Interesting Problems in Otolaryngology and Their Management

Varied ear, nose and throat problems, their management and results, will be illustrated with case presentations, with the thought that each might possibly serve as a pattern for the management of similar conditions. Some examples are (1) pituitary cyst visualized and treated via the transseptal-sphenoidal route; (2) unusual problem of conduction deafness in a child; (3) true cholesteatoma of the skull; (4) congenital atresia (agenesis) of the ear canal with supernumerary

auricles; (5) carcinoma of the tongue, completely intralingual; and (6) acute glossitis.

COURSE 409

Room 706 Period Th-2

OSCAR J. BECKER, M.D.
Chicago

Plastic Surgery of Protruding Ears

An original technique for correcting protruding ears is to be presented. This method has proved highly satisfactory in reproducing the normal contours of the auricle and in setting the ear back to the head at the proper angle.

The anatomy of the external ear, the etiology and pathology of protruding ears, and a historical survey of operative procedures will be included in the discussion.

COURSE 409-A

Room 728 Period W-3
or or
Room 738 Period Th-3

JULIUS W. BELL, M.D.
New York

Correction of Outstanding Ears

COURSE 410

Room 727 Period T-3

NATHAN A. BOLOTOW, M.D.
Providence, R. I.

Rhinoplasty: Recent Advances

Any applied art, such as rhinoplasty, becomes obsolete within a few years because of the constantly increasing information, the modification of the surgeon's view, and his greater experience. An attempt will be made to present the newer concepts and techniques in the process of shortening the nose, modeling the lobule, narrowing the nasal pyramid, and hump removal. Unsolved problems in rhinoplasty will be discussed.

COURSE 411

Room 731 Period T-1

JOHN E. BORDLEY, M.D.
Baltimore

Deafness in the Infant and Preschool Child: Etiology

This hour will be devoted to information which has been assembled over the past six years regarding a large group of preschool children with severe communicative handicaps. Special emphasis will be placed on the etiologic factors that apparently have been associated with the hearing problem. Correlation will be made of the type of hearing loss with the etiologic factor under consideration. There will be discussion of the type of history and the type of examination to be undertaken by a clinician to help in the diagnosis of hearing loss in such children.

COURSE 412

Room 740 Period W-1

WESLEY H. BRADLEY, M.D.
Syracuse, N. Y.

Practical Office Speech Audiometry

The use of speech audiometry has become established as one of our most helpful diagnostic tools. Yet, many practicing otolaryngologists have completely disregarded its use because of the mistaken belief that speech audiometry requires extensive space, expensive equipment, and many extra hours for testing. In this course, I will attempt to show how speech audiometry can be done in a very practical manner by the average otolaryngologist without extensive space changes and equipment additions. Illustrative cases will be used to show some of the diagnostic rewards obtained from its use.

COURSE 413

Room 740 Period T-1

DAVID W. BREWER, M.D.
and
F. BERTRAM BRIESS
BY INVITATION
Syracuse, N. Y.

Laryngeal Anatomy and Phonatory Laryngeal Physiology

Current concepts of laryngeal physiology are broadening rapidly. Relating these advances to intimate laryngeal anatomy is difficult even for the practicing otolaryngologist. A review of this anatomy and its function during phonation is presented in this course. It should serve as a timely introduction to the subsequent two-hour course. "Head and Neck Symptoms Associated with Laryngeal Microtrauma: Diagnosis and Management."

COURSE 414

Room 732 Period W-3

FRIEDRICH S. BRODNITZ, M.D.
New York

Rehabilitation of Voice and Speech in Malignant Lesions and Other Organic Disorders

Operations for the removal of malignant lesions, accidental trauma to the larynx and other organic disturbances of vocal function create handicaps in the use of voice and speech that require special attention by the laryngologist who handles these cases.

This course will review the practical aspects of preoperative orientation, the over-all planning, and the techniques used in the rehabilitation of the patient with damaged vocal function.

The following conditions will be discussed in relation to voice and speech:

1. Glossectomy and operations in the oral region
2. Accidental injuries to the larynx
3. Paralysis and fixation of the vocal cords
4. Cordectomy and hemilaryngectomy
5. Laryngectomy

The course will be illustrated by voice recordings.

COURSE 415

Room 724 Period W-3

NORTON CANFIELD, M.D.
New Haven, Conn.

Speech Audiometry for the Practicing Otologist

The advantages of speech audiometry, as aided by new electronic instruments, will be compared to those of pure tone audiometry as a practical tool for determining auditory acuity.

The techniques used in speech audiometry will be discussed.

The value of the speech audiometer in testing hearing aids will be stressed, and cases in which it has proved its worth will be cited.

Use of the speech audiometer in testing speech reception and auditory discrimination will be explained. The psychological insight concerning the patient gained when the otologist does the testing himself will be pointed out.

The speech audiometer has proved even more successful in testing the hearing of children, and methods for testing and observing the reactions of young children to speech sounds will be described.

Finally, mention will be made of the advantages of this instrument in tests for malingering.

COURSE 416

Room 724 Period T-1

LOUIS H. CLERF, M.D.
St. Petersburg, Fla.

Causes of Hoarseness with Particular Reference to Treatment

This course will be devoted to a brief consideration of the symptom "hoarseness" and the diagnosis of conditions producing it.

Diseases of the larynx will be discussed, especially from the standpoint of treatment, and many of the more common typical and atypical laryngeal lesions will be shown on kodachrome slides and in a motion picture.

COURSE 417

Room 716 Period T-3

EDWIN W. COCKE, JR., M.D.
Memphis

Salivary Gland Tumors: Management

The differential diagnosis, surgical anatomy, and surgical procedures pertaining to salivary gland tumors will be discussed.

The management of parotid salivary tumors and the related facial nerve will be emphasized. The material to be presented is not new and is not meant for instruction of those who feel that they can now confidently perform these operations. The material will be illustrated on 35 millimeter slides.

COURSE 418

Room 721 Period W-3

CLAUDE C. CODY, III, M.D.
Houston, Texas

Eustachian Tube: Management of Pathologic Conditions

Management of pathologic conditions of the eustachian tube is a subject that confronts every practicing otolaryngologist. Unfortunately, many symptoms are erroneously attributed to the eustachian tube when this is not the real seat of trouble.

A working classification of lesions of the eustachian tube, suppurative and nonsuppurative, in both the young and old, will be offered. Kodachrome slides will be shown demonstrating the eardrums of children which show various stages of retraction and various stages of effusion. The relationship of such conditions to hearing will be stressed. Management, including adenoidectomy, myringotomy with suction, inflation, and the possible use of radium and roentgen therapy, will be covered. Our changing concepts regarding suppurative otitis media and serous otitis media and their relationship to hearing will be developed.

Serous otitis media and adhesive otitis media, and the problems they present in adult patients, will be dealt with along with various methods of management.

Vertigo and its possible relation to tubal obstruction will be reviewed. Special emphasis will be placed on office management of tubal obstruction. The methods for its diagnosis and treatment will be thoroughly covered. A short motion picture on equipment and technique used in the management of tubal obstruction in routine office practice will be shown.

COURSE 419

Room 728 Period T-1

WESLEY E. COMPERE, JR., M.D.
Los Angeles

Radiologic Examination of the Mastoid, Middle Ear, and Eustachian Tube

The equipment, positions, and techniques necessary for the visualization of disease in the tympanic cavity, attic, and aditus will be described, as well as the radiologic methods of evaluating function of the eustachian tube. When possible, the radiographic findings will be correlated with the surgical findings, procedures, and results.

COURSE 420

Room 740 Period W-2

DONALD A. CORGILL, M.D.
Dallas

Radical Hypopharyngeal Surgery Combined with Neck Dissection

Patients when first seen by the laryngologist are often suffering from advanced stages of carcinomatous disease of the hypopharynx involving the larynx, pharynx, tonsil, base of the tongue, with local metastasis to the neck already present on either one or both sides. A one-stage surgical procedure adequately encompassing all malignant tissue, together with methods of primary (aortic homograft) or secondary reconstruction, immediate and long-term postoperative results, complications, including the problem of the carotid artery, and methods of dealing with them, will be described with the aid of color slides and a colored motion picture of the operations and of the complications. Time sequence photography has been applied to the resolving complications. The results of such very radical procedures during an eleven-year experience will be presented.

COURSE 421

Room 726 Period T-3

JAMES E. COYLE, M.D.
Detroit

Radiation Therapy of the Head and Neck

This course will review some of the more important fundamental principles of radiation therapy, with some mention of the older and more conventional types of therapy in comparison with the newer modalities and how they are being used today in the treatment of head and neck cancer. It is to be hoped that in realizing the potential of irradiation and the limitations of this method, as well as the skill of the therapist, the otolaryngologist may better advise the proper treatment of neoplasms of the head and neck regions.

COURSE 422

Room 750 Period W-1

LAWRENCE S. CRISPELL, M.D.
Joplin, Mo.

Otolaryngolgic Allergy in Children

Diagnosis and treatment of pediatric allergy as it pertains to the practice of the otorhinolaryngologist will be discussed. An effort will be made to show how such treatment will fit easily into everyday office practice. Allergy and its relationship to recurring colds, sinusitis, tonsillectomy, adenoidectomy, deafness and bronchitis will be discussed.

COURSE 423

Room 727 Period Th-1

JOHN F. DALY, M.D.

JOHN C. CARDONA, M.D.
New York

Corrosive Esophagitis:
Recent Advances in Management

The primary object in the management of corrosive esophagitis due to ingestion of acids and alkalies is the prevention of stricture formation. Results of treatment with antibiotics, steroids and prophylactic dilatation at the New York University-Bellevue Medical Center will be presented. Diagnosis and management of complications will be covered.

COURSE 424

Room 743 Period T-1

KENNETH D. DEVINE, M.D.
Rochester, Minn.

Total Laryngectomy:
Anatomy and a Technique

This course will consist of a short history of the operation, laryngectomy, a motion picture showing a technique of total laryngectomy, and a lecture on the pertinent anatomy illustrated with lantern slides.

COURSE 425

Room 721 Period Th-3

DAVID D. DeWEESE, M.D.
Portland, Ore.

The Problem of the Dizzy Patient

This course will include a discussion of the factors to be taken into consideration in making a differential diagnosis of the patient who comes to the physician with the complaint of "dizziness." There will be remarks on the importance of certain facets of history taking. There will also be a discussion of nystagmus and of the value and interpretation of labyrinthine tests. A workable outline of those diseases and conditions which must be taken into account when considering the symptom of dizziness will be presented. An attempt will be made to keep in mind those practical points which are of value in differential diagnosis of this symptom in everyday practice. Treatment of certain types of dizziness and vertigo will be considered.

COURSE 426

Room 721 Period Th-2

JOHN T. DICKINSON, M.D.
Pittsburgh

Saddle Nose

This common nasal deformity will be discussed from a standpoint of etiology,

prevention, and correction. The correction of coexisting or secondary deformities will be given first attention. Local tissue replacement with osteoplastic and chondroplastic techniques will be considered along with the use of cartilage flaps from the upper and lower lateral cartilages. Grafts to be discussed will include autogenous cartilage and bone and homogenous cartilage and bone. Acrylic will be the only foreign body implant discussed. The fundamental principles in the use of these materials will be given and their relative merits weighed.

COURSE 427

Crystal Room Period T-1

J. BROWN FARRIOR, M.D.
Tampa, Fla.

Stapes Operability in 3-D

This course demonstrates in a series of three-dimensional photographs the pathologic indications for stapes surgery and for fenestration surgery. For stapes surgery, the anatomy and pathology of the stapes are classified into favorable, unfavorable and inoperable. The course is divided into four parts: (1) the types of stapes which are favorable for the stapes operation; (2) the types which are unfavorable; (3) the types which are inoperable; and (4) a series of postmobilization failures showing the causes of refixation and the indications for the fenestration operation. Varied surgical attack on the stapes is indicated for each type of pathologic involvement. The goals of the course are to define the pathologic indication for the stapes operation, the pathologic limitations for such procedures, and the pathologic indication for the fenestration operation.

COURSE 428

Crystal Room Period T-2

J. BROWN FARRIOR, M.D.
Tampa, Fla.

Tympanoplasty in 3-D

The pathologic changes found in a series of tympanoplasties are shown to demonstrate the minute pathologic variables which influence surgical judgment and surgical technique in the restoration of hearing in tympanoplastic operations. Three-dimensional photography is used to demonstrate the interrelationship of the middle ear structures. First, the course will cover a series of large central perforations and their closure by myringoplasty; the tympanic splint is advocated. Second, the course will cover a series of cases complicated by varying degrees of cholesteatoma necessitating surgical procedures on the mastoid, and tympanoplasties of types II, III, IV, and V. The causes of success and failure are discussed.

COURSE 429

Room 738 Period W-1

RICHARD T. FARRIOR, M.D.
Tampa, Fla.

A Method of Otoplasty

A new technique for producing normal contour of the anthelix and scaphoid fossa in the correction of protruding ears will be presented. Detailed attention will be given to the anatomy of the average normal ear. Cadaver sections will be used for illustration.

A critical comparison will be made of the currently used techniques and the method presented. A historical review of the operation will be outlined and the shortcomings of earlier procedures pointed out. Errors in technique and additional combined techniques will be incorporated.

The course will be illustrated by color transparencies of the anatomy, surgical technique of the actual operation, and surgical results, with emphasis upon normal contour as seen from the side.

COURSE 430

Room 715 Period Th-3

RICHARD T. FARRIOR, M.D.
Tampa, Fla.

Cancer of the Head and Neck

Color transparencies representing common and unusual lesions from each of the anatomic areas of the head and neck are presented. Photographs made during

surgery, representing particular techniques extending from simple outpatient procedures to major en bloc combined neck resections, are presented. Original techniques are incorporated with the currently accepted principles of cancer surgery.

The course emphasizes the need for every otolaryngologist to be familiar with the detection and management of head and neck cancer, whether or not he himself performs the major operation. For the surgeon doing these procedures, a thorough knowledge of the reconstructive aspects involved allows him to be more radical in his initial excision, increasing the cure rate. Some form of primary reconstruction, where there would be a significant disturbance in function without its use, has much in its favor. If reconstruction would alter in any way the main objective of curing the cancer, it should not be given any consideration.

COURSE 431

Room 738 Period T-1

MORRIS FISHBEIN, M.D.
Chicago
BY INVITATION

Medical Writing

The course will follow in outline the textbook entitled Medical Writing: The Technic and the Art. The discussion will concern types of papers accepted by various publications, the preparation of charts, tables, and illustrations, the use of protocols of experimentation, and the technique of the case report.

COURSE 432

Room 738 Period W-3

GLASSELL S. FITZ-HUGH, M.D.
WALTER C. McLEAN, M.D.
Charlottesville, Va.

The Salivary Glands: Common Disorders

A classification of disorders of the salivary glands will be submitted for consideration. Recognition, diagnosis, and treatment of some of the more commonly encountered ones will be discussed. No effort will be made to consider the more unusual conditions. Pertinent facts will be illustrated by projected slides, and some of the material will be presented in printed form to the members attending the course.

COURSE 433

Room 738 Period W-2

THOMAS W. FOLBRE, M.D.
San Antonio

Discarding Old Ideas in Otolaryngology

What seem to be the most comon basic errors in ordinary otolaryngologic practice today will be enumerated. Errors in fundamental concepts of clinical pathology show that we have not made enough basic changes in thinking. Old ideas of the anatomic era appear in our thinking without our realizing it. We still do not appreciate the importance of ventilation and drainage in mastoid and sinus disease and the importance of vascular disease in headaches, neuralgias and stuffy ears. Our frequent misdiagnoses of carotid artery pain, otosclerosis and ear canal dermatitis will be discussed.

COURSE 434

Room 743 Period T-2

EDMUND P. FOWLER, JR., M.D.
New York

Facial Paralysis and Tics

This course will include discussion of the following points:

1. Etiology of neuritis of the seventh nerve
2. Bell's palsy
3. Traumatic injuries of the facial nerve, including those instant to fracture of the temporal bone
4. Tumor invasion

Special attention will be paid to the pathologic changes incident to repair and methods of decompressing and grafting the nerve. There will also be a discussion of the medical management of Bell's palsy, postrecovery associated movements, and involuntary twitches or tics.

COURSE 435

Room 722 Period T-1

A. C. FURSTENBERG, M.D.
Ann Arbor, Mich.

Management of Nasal Obstruction

A discussion of nasal obstruction will stress the reflex and inflammatory symptoms of this disorder. Particular emphasis will be placed upon the role of the turbinates in nasal obstruction and its symptoms. Allergic factors will be referred to in a consideration of adequate and effective treatment.

COURSE 436

Room 705 Period Th-2

ARAM GLORIG, M.D.
Los Angeles

The Otolaryngologist and Hearing Aid Selection

The purpose of the course will be to answer many of the questions surrounding selection of a hearing aid, especially those which the "hearing loss patient" directs to the physician when he is informed that a hearing aid will be necessary.

COURSE 437

Room 732 Period W-1

ROBERT L. GOODALE, M.D.
Boston

Rationale of Surgery of the Frontal Sinus

In this course the subject of frontal sinus surgery will be reviewed from the viewpoint of changing concepts due to more recent knowledge of the physiology of the nasal sinus mucous membrane, especially in regard to the flow of mucus and the action of the cilia, the increasing number of bacteria and the role of antibiotics to control them, and improvement in surgical technique not only in regard to training of personnel but improvement of instruments. A discussion of techniques for medical and surgical relief of acute sinusitis and consideration of the indications for radical surgical intervention will be presented.

COURSE 438

Room 710 Period T-1 or Th-1

VICTOR GOODHILL, M.D.
Los Angeles

Stapes Mobilization: The Peribasal Monitored Technique

Since the surgical approach of stapes mobilization is a therapeutic attack on a number of diseases involving the oval window (loosely called otosclerosis), it is necessary that the surgical techniques be varied to meet the pathologic changes specifically encountered.

Accordingly, my personal surgical approach in stapes mobilization involves a methodical monitored anatomic approach utilizing a number of instruments and a number of maneuvers individually selected to meet the special problems encountered. Thus, the technique may be either transincudal, transcapitular, transcrural, or transfootplate. A number of instruments are necessary to implement these various approaches. These include both digitally-controlled and engine-controlled instruments.

The surgical procedure is always monitored by the nomographic technique of surgical audiometry.

Surgical instruments will be demonstrated along with magnifying, illuminating, and audiometric equipment.

COURSE 439

Room 750 Period T-2

ARTHUR J. GORNEY, M.D.
Boston

Esophageal Strictures: Prevention and Treatment

The proper use of bougies in the prevention and treatment of esophageal strictures is one phase of otolaryngic practice which is very often neglected.

The early treatment of burns of the esophagus and the prevention of stricture formation in such cases by the proper use of mercury-filled bougies will be considered. The management of cases in which stricture has already formed after the ingestion of lye or other caustic substances will also be discussed in detail.

The pathogenesis, prevention, and treatment of strictures of the esophagus, including those due to causes other than burns, such as that found in peptic esophagitis and in some other interesting and unusual conditions, will also be discussed. Emergency treatment and follow-up management, with particular stress placed on the use of various types of esophageal bougies, will be presented.

COURSE 440

Room 743 Period T-3

EUGENE L. GRANDON, M.D.
Iowa City
BY INVITATION

Plastic Surgical Procedures for the Otolaryngologist

Numerous lesions and minor deformities about the face and neck can easily be managed by the otolaryngologist. One must have a knowledge of skin grafting and the proper use of flaps to handle these cases adequately.

A variety of procedures will be described with actual case illustrations.

COURSE 441

Room 740 Period W-3

PAUL GUGGENHEIM, M.D.
Council Bluffs, Iowa

Technique and Pitfalls of Adenoidectomy

1. Brief historical survey, mentioning the works of von Gyergyai, Yankauer, Lothrop, Holmes, Beck, Kelly, Love, L. K. Guggenheim, Meltzer and others.

2. Methods of clinical examination of the nasopharynx: mirror examination, electric nasopharyngoscope, direct exposure with palate retractor, radiography.

3. Operative prerequisites: illumination, position of patient and surgeon, instrumentarium.

4. Technique of direct exposure of nasopharynx for biopsy of Rosenmueller's fossa and for direct adenoidectomy. Unique features of the direct view and resulting feelings of estrangement on part of the surgeon.

5. Techniques of excision of adenoid tissue, use of scalpel or scissors, curet, adenotome, punch forceps.

6. Histopathology of the lateral adenoid and its bearing on the question of irradiation versus surgery.

7. Brief mention of the role of unresorbed mesenchyme in conductive deafness in children, and the role of tubal dilatation in its treatment.

8. Otologic results.

9. Complications.

COURSE 442

Room 734 Period T-1 or Th-1

FREDERICK R. GUILFORD, M.D.
WILLIAM K. WRIGHT, M.D.
Houston, Texas

Controlled Healing of Mastoid and Fenestration Cavities

In this course a technique which allows for rapid, complete healing of mastoid and fenestration cavities will be described.

By use of this technique, the size of the cavity, growth of granulations and epithelization are controlled. The resulting small cavities are completely lined with a healthy keratinized layer of squamous epithelium within six weeks postoperatively in 90 per cent of the cases.

The small postoperative mastoid or fenestration cavity in a sclerotic mastoid heals more readily than a large cavity which has resulted from an operation on a well pneumatized mastoid. We employ obliterative techniques to ensure a small cavity in either a fenestration, modified radical mastoidectomy or tympanoplasty when the operation is performed on the well pneumatized mastoid. The cells in the well pneumatized fenestration cavity are obliterated by the use of cartilage chips, which are used to fill the various cell groups. In modified radical and radical mastoidectomies, done in the presence of moderate to marked pneumatization, the lower portion of the cavity is obliterated by removal of the mastoid tip and the use of a soft tissue flap.

Secondary skin grafting is employed two weeks following operation, routinely in fenestrations and in the large majority of radical, modified radical and tympanoplasty operations, in order that the healing may be controlled. The secondary skin grafting technique will be illustrated by slides and a motion picture.

COURSE 443

Room 750 Period T-3

MERLE L. HALE, D.D.S.
Iowa City
BY INVITATION

Fractures of the Jaws: Fundamentals in Diagnosis and Treatment

Fractures of the mandible and maxilla are usually complicated by their close anatomic association to the oral cavity, the nose, orbits and sinuses, and by the presence or absence of teeth in the jaw fragments. Simply to immobilize a fractured jaw is not adequate treatment in many cases. Functional occlusion when full dentition is present or satisfactory interarch relationships in edentulous cases must be re-established and maintained. A fracture that has not been properly aligned may unite, but the patient may become a dental cripple. Some diagnostic and therapeutic procedures for these complicated injuries will be discussed.

COURSE 444

Room 750 Period W-3

MERLE L. HALE, D.D.S.
Iowa City
BY INVITATION

Cysts of the Jaws and Mouth: Diagnosis and Treatment

Cysts of the jaws and mouth are classified according to their anatomic position and pathogenesis. Frequently cysts not of dental origin are mistakenly associated with these radiographic and clinical findings, and are unnecessarily extracted. This discussion will include a review of the classification of cysts associated with the oral region together with some methods for establishing a differential diagnosis. Some treatment concepts and surgical principles will also be discussed.

COURSE 445

Room 750 Period W-2

O. ERIK HALLBERG, M.D.
Rochester, Minn.

Sudden Deafness

Sudden unilateral or bilateral impairment of hearing is a symptom, not a disease. It is very distressing, alarming to the patient, and deserves our most careful attention. The pathology, etiology, diagnostic factors and other pertinent data will be discussed. The most common cause of sudden deafness is thought to be vascular accident involving the blood supply to the cochlea, the equilibratory labyrinths, or both.

There is some evidence to show that patients so afflicted are more susceptible than the average patient to the development of other vascular accidents later in life. Treatment and type of examination needed will also be discussed in detail.

COURSE 446

Room 733 Period Th-3

O. ERIK HALLBERG, M.D.
Rochester, Minn.

Severe Nosebleed

Severe nosebleed requires prompt and decisive action by the rhinologist. The tendency has been to make more extensive use of surgical intervention. However treatment varies greatly depending upon the site of the bleeding. The different types of medical and surgical treatments will also be discussed in detail.

COURSE 447

Room 738 Period T-3

HERBERT P. HARKINS, M.D.
Philadelphia

Routine Office Management of Allergic Patients

The modern otolaryngologist daily sees patients who are suffering from allergies of the ear, nose and throat. It is essential that he be able to diagnose these conditions accurately and to outline effective and complete therapy.

The essential features of the following procedures will be discussed:

1. History taking
2. The clinical examination of the ear, nose and throat
3. Necessary laboratory studies to be performed in the office
4. Skin testing
5. Desensitization, both standard and high dilution
6. Elimination diets
7. Office surgical procedures

The course will be illustrated by lantern slides which show necessary equipment and techniques.

COURSE 448

Room 713 Period T-1

JAMES A. HARRILL, M.D.
Winston-Salem, N. C.

Cancer of the Maxillary Sinus

This course is designed to present signs, symptoms, roentgenographic findings, surgical treatment and irradiation of cancer of the maxillary sinus. The surgical resection of the maxilla will be demonstrated by a colored motion picture. Intra-antral and supplemental external cobalt irradiation will be discussed. Various steps in the construction of a facial prosthesis will be outlined. If any time remains, a general discussion will follow.

COURSE 449

Room 705 Period Th-1

ROBERT HENNER, M.D.
Chicago

Functional Surgery of the Middle Ear: Principles

This course will cover the changes in the middle ear, especially in chronic suppurative disease, which should be considered in determining preoperatively the type of hearing result which can be obtained. It will include explanations of the value of the acoustic probe in studying the ossicular transmission system. It will also cover the various diseases. The operative approaches used to obtain maximum postoperative hearing will be discussed.

Among the procedures under consideration will be myringoplasty, tympanoplasty, columellar grafts, and round window or cavum minor grafts.

The guiding principle behind this course is that in every conductive deafness, be it otosclerosis, congenital atresia, or suppurative disease, there is potential improvement of hearing.

COURSE 450

Room 712 Period Th-1

JACK V. D. HOUGH, M.D.
Oklahoma City

Anatomic Variations in the Middle Ear: Their Significance in Stapes Mobilization

The numerous procedures to restore function to the conductive mechanism of the middle ear have produced urgent demands for more information regarding the variations one might encounter when the eardrum is elevated and the mechanism of the middle ear is viewed. In modern otology, micro-orthopedics and plastic revisions of delicate proportions must be performed. This work requires basic knowledge in middle ear variations. Otherwise, a slight distortion or absence of a landmark may be a mechanical pitfall with an undesirable result.

Reports of middle ear malformation unassociated with other known defects have been extremely rare in the past; however, they are much more common than has been realized. A large number and a large variety of significant defects have been observed in a series of 500 transaural tympanotomies. These will be presented with kodachrome slides and illustrations. Embryology, diagnostic problems, etiologic factors and surgical corrective measures will be discussed.

COURSE 451

Room 724 Period Th-3

HOWARD P. HOUSE, M.D.
Los Angeles

Stapes Mobilization Procedure: Personal Experiences

Changing trends in stapes mobilization will be discussed. The current techniques will be reviewed, based on a statistical analysis of our series of mobilized cases, including surgical revision and the use of plastics.

COURSE 452

Room 733 Period W-1 or Th-1

CHEVALIER L. JACKSON, M.D.
Philadelphia

Peroral Endoscopy and Endoscopic Photography: Instrumentarium and Technique

Newest types of instruments for direct laryngoscopy, bronchoscopy and esophagoscopy will be demonstrated, and current trends in the technique of these procedures will be described and discussed. Lamps of latest design will be shown, as well as the new type of connectors which is replacing connectors of the old "bayonet" type.

The history of endoscopic photography will be reviewed briefly and especial mention made of the two currently most used types of apparatus, the Holinger-Brubaker type and the French type developed by Fourestier, Gladu and Vulmiere, which uses a quartz rod for transmission of light. The use of both types of apparatus will be demonstrated. Finally, an attempt will be made to evaluate endoscopic photography as a method of study of diseases of the larynx, tracheobronchial tree and esophagus.

COURSE 453

Room 727 Period Th-2

JAMES JERGER, Ph.D.
Evanston, Ill.
BY INVITATION

Auditory Tests in Diagnosis

Lesions at various sites within the auditory mechanism are characterized by distinct patterns of auditory test results. By administering a battery of special tests, including Bekesy audiometry, loudness balance, SISI, and distorted speech tests, lesions in the middle ear, cochlea, eighth nerve, and central auditory pathways may be effectively differentiated. No single test can be relied on in all cases, but by the use of a sufficiently diversified battery, reliable and meaningful patterns may be identified.

COURSE 454

Room 733 Period T-1

NORMAN JESBERG, M.D.
Los Angeles

Benign Conditions of the Throat: Diagnosis and Treatment

This course is designed to present some benign conditions which may be encountered by the otolaryngologist. Some are frequent, others infrequent, but all present a challenge in diagnosis and treatment.

1. Chronic hypertrophic, lingual tonsillitis and mucous cysts of the larynx and hypopharynx
2. Hypopharyngeal hernia or diverticulum
   a. Historical aspect
   b. Evolution of surgical treatment
   c. Surgical approach
   d. Use of esophagoscope
   e. Surgical variations in primary closure of the pharynx
   f. Postoperative use of the feeding tube and methods of introduction
3. Inflammatory lesions and benign "growths" of the larynx
   a. Chronic, circumscribed, polypoid laryngitis
   b. Chronic, diffuse, polypoid laryngitis
   c. Contact ulcer granuloma
   d. Papilloma
   e. Scleroma
   f. Coccidioidal granuloma
4. Benign tumors

COURSE 455

Room 733 Period T-2

LEWIS W. JORDAN, M.D.
Portland, Ore.

Recent Nasal Fractures: Management

Recent advances in rhinoplasty by otolaryngologists for the improvement of nasal function have directed attention to more precise methods for the handling of nasal fractures. The proper management of these injuries will prevent much later disability.

This course will present a practical approach to the management of the fractured nose. It will include discussion of (1) pathologic changes; (2) methods of making an early diagnosis; (3) use of local anesthesia; (4) correction of displaced bony fragments; (5) reduction of septal fractures; (6) open reduction in cases which cannot be corrected by closed methods; (7) application of external and internal dressings; (8) nasal injuries in children; and (9) old fractures.

COURSE 456

Room 733 Period T-3

RAYMOND E. JORDAN, M.D.
Pittsburgh

Meniere's Disease: Diagnosis and Treatment

This course will cover the management of the patient with Meniere's disease. Diagnosis and therapy, both medical and surgical, will be presented. Discussion of medical therapy will be confined to the methods used by the author. Discussion of surgical management will include selection of cases for operation and procedures used. Long-term results of this type of management will be presented.

COURSE 457

Room 733 Period W-2

ARTHUR L. JUERS, M.D.
Louisville, Ky.

Perforations and Hearing Conservation Surgery

The "marginal eversion" method of office closure for central tympanic perforations will be described. Selection of cases for office closure and graft closure technique will be discussed. The genesis of attic cholesteatoma will be considered with emphasis on indications for surgical intervention, possibilities of preserving or restoring hearing as well as getting a dry, safe ear when surgical treatment is indicated. Selected case reports will be used to illustrate problems of prognosis and technique.

COURSE 458

Room 733 Period W-3

JOSEPH I. KEMLER, M.D.
Baltimore

Diagnostic and Therapeutic Aids in the Practice of Otolaryngology

As related to:

1. Epistaxis
2. Acute and chronic sinusitis
3. Submucous resection
4. Lacrimal disorders
5. Focal infections
6. Retropharyngeal and parapharyngeal infections
7. Indirect laryngoscope
8. Differentiating functional and organic maladies of the larynx
9. Meniere's syndrome

COURSE 459

Room 732 Period W-2

CHARLES E. KINNEY, M.D.
Cleveland

Hearing in Children: Newer Concepts

An entirely new method of surveying the hearing of school children will be described. This is just as efficient as older methods and has the advantage of being faster and requiring less bulky equipment.

A modern concept of diagnosis, treating and training the young "noncommunicative child" will be described.

Diagnosis and treatment of lesser hearing problems in the older child will be discussed, with particular emphasis on middle ear effusion.

COURSE 460

Room 728 Period T-2

JOHN A. KIRCHNER, M.D.
New Haven, Conn.

Facial Bone Injuries

Trauma to the zygoma, maxilla or nose produces characteristic deformities in the middle third of the face. These changes may be obscured by hematoma or edema, but they can usually be found by careful physical and roentgenographic examination. Techniques of examination, methods of treatment, and details of surgical anatomy will be demonstrated by photographs of patients with the various types of injury.

COURSE 461

Room 706 Period T-1 or W-1

CLAIR M. KOS, M.D.
Iowa City

Stapes Mobilization

Stapes mobilization, practiced during the late nineteenth century, discarded, and subsequently revived continues to be a subject of considerable interest to the otologic profession.

More than four years of experience with over a thousand operations indicates that the procedure is successful in improving hearing in an appreciable number of patients. Despite the increase of immediate postoperative successes with improvements in technique, regressions continue to limit the net long-term successful results.

Surgical techniques, criteria for selection of cases suitable for operation, indications for re-operations, possible complications and results are essential considerations to be discussed.

COURSE 461-A

Room 776 Period W-2
or or
Room 738 Period Th-1

CLIFFORD F. LAKE, M.D.
Rochester, Minn.

Secretory Otitis Media in Children

The course will consist of a lecture and slides covering the etiology, diagnosis and treatment of secretory otitis media in children.

The various appearances of the tympanic membrane in secretory otitis media, the importance of the history, and the role of infection and allergy all will be brought out in the course.

Various methods of treatment with particular emphasis on myringotomy and removal of lymphoid tissue in the nasopharynx will be demonstrated, and photomicrographs of smears of various types of otitis media will be shown.

COURSE 462

Room 706 Period W-3
or or
Room 705 Period Th-3

FRANCIS L. LEDERER, M.D.
Chicago

Diagnostic and Therapeutic Pitfalls in Otolaryngologic Practice

From the very beginning of the interrogation to the culmination of medical and surgical management of the patient, potential mishaps and pitfalls are numerous. Inasmuch as patients seeking the services of the otolaryngologist confront him with symptoms of a varied nature, definitive management entails a matter of well chosen words and carefully selected modalities. In evaluating the challenging array of signs, symptoms, and symptom-complexes—headache, nasal blockage, dizziness, dysphagia, sore throat, otalgia, hoarseness, aural or nasal discharge, cough, obstructive states of the upper or lower airway, epistaxis, tinnitus, hearing loss, disturbances of facial, orbital or neck symmetry—pitfalls, mistakes, transgressions, accidents, and errors of omission and commission are at times either apparent or evident. Although generally speaking none of these signs or symptoms is in itself diagnostic, all of them require careful evaluation for an accurate diagnosis to aid recovery, preserve function of a special sense organ, or save a life.

In this presentation the potentialities for error (diagnostic, therapeutic and

surgical) are illustrated by charts and patient photographs in an effort to learn by the experience of others. Prevention is, after all, a matter of the knowledge that these pitfalls exist.

COURSE 463

Room 721 Period T-3

A. NEIL LEMON, M.D.
Philadelphia

Serous Otitis Media in Children

Serous otitis media accounts for mild to moderate hearing loss in too large a segment of our child population and is too often overlooked. Patients referred for removal of tonsils and adenoids were studied carefully and 17 per cent were found to have serous otitis media.

This course includes a discussion of (1) etiologic factors, (2) bacteriologic, pathologic and chemical studies of the fluid, (3) diagnosis, and (4) management. The recognition of serous otitis media is made simple by careful history, proper examination, and hearing analysis. Effective treatment will be discussed in detail step by step. Most of the ideas offered in this course are visualized in lantern slides. Office care of the condition is minutely described and equipment demonstrated.

Time will be permitted for questions and answers.

COURSE 464

Room 710 Period W-3

JULIUS LEMPERT, M.D.
New York

Temporal Bone Surgery: Pitfalls and Problems

Safest methods of exposing to view the surgical anatomy during the performance of temporal bone surgery will be demonstrated. The functional considerations which must be given to the surgical anatomy involved in performing various surgical procedures on the temporal bone will be discussed.

COURSE 465

Room 706 Period T-3

MARK H. LEPPER, M.D.
Chicago
BY INVITATION

Antibiotics in Otolaryngology

The use of antibiotics in terms of the known pharmacology, their effects on microbes and the nature of the disease processes will be considered. Thus, the course will include a consideration of the host-parasite, host-drug and drug-parasite relationships, and from these concepts discussion of the following problems will be developed:

1. When should one treat empirically?
2. Estimation of effectiveness of the drug
3. Bacteriologic studies required
4. Are sensitivity studies helpful?
5. What is optimal treatment?
6. When should antibiotics be changed?
7. What are the rules governing the choice of drugs when changes are made?
8. What are the reasons for failure?
9. Drug toxicity and differential diagnosis

COURSE 466

Room 706 Period T-2

PAUL M. LEWIS, M.D.
Pittsburgh

Reactions to Drugs and Antibiotics in Use in Otolaryngology

Therapeutic possibilities in otolaryngology have increased many fold in recent years with the addition of antibiotics, steroids, anesthetics and other innumerable new or modified drugs. With widespread use of these new agents, we have been confronted with an increasing incidence of reactions of a toxic or allergic nature. This presentation will cover certain drugs and antibiotics commonly used in practice, and reactions attributed to them. Prevention and treatment of these reactions will be discussed. Proper use of drugs and antibiotics in otolaryngology will be considered.

COURSE 467

Room 706 Period W-2

CHARLES LITTWIN, M.D.
Palisade, N. J.

Rhinophyma

Slides (35 mm.) describing anatomy and technique of local anesthesia by packing and infiltration

Diagrams showing procedure

Kodachrome slides showing cases before and after treatment

About six hundred feet of 16 mm. film showing operative procedure in detail on two patients, with postoperative results

As time permits, demonstration with diathermy apparatus and raw meat, the proper instrumentation and technique of the procedure

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COURSE 468

Room 715 or Room 721 — Period T-1 or Period Th-1

WALTER E. LOCH, M.D.
Baltimore
BY INVITATION

Septum Deviations: Techniques of Surgical Reconstruction

Techniques for reconstruction of the nasal septum for varying degrees of deviations, obstructions and impactions will be described, including the maxilla-premaxilla approach. Attention will be given to the surgical problems of the anterior part of the septum. The surgical anatomy of the septum and its related structures will be discussed with reference to its influence on the technical procedure and avoidance of possible unfavorable sequelae. The surgical techniques will be demonstrated on the cadaver.

COURSE 469

Room 710 — Period W-1

PERRIN H. LONG, M.D.
Brooklyn
BY INVITATION

Use of Antibacterial Substances in Otolaryngology

An attempt will be made in this course to present the most recent data relative to infectious processes which may be the concern of the otolaryngologist in his practice, or of personal concern to himself or his family. The latest information relative to the prophylaxis and treatment of infectious processes will be discussed, as well as methods for the control of infectious processes. Those taking this course are requested to bring in their problems in infectious diseases. Ample discussion time will be provided.

COURSE 470

Room 712 — Period T-1

JOHN M. LORE, JR., M.D.
New York

Vascular Surgery in the Head and Neck: Techniques

The basic principles involved in vascular surgery will be covered in detail. Vascular instruments, suture material and the types of sutures used will be demonstrated in relation to end-to-end arteriorrhaphy and lateral arteriorraphy. The various indications for vascular surgery, viz.: injury to vessels, aneurysms, arteriovenous fistulas, tumor invasion of vessels and obstructive arteriosclerosis, will be discussed. Familiarity with the use of vascular grafts (autogenous, homogenous, heterogenous and synthetic) is an integral part of the armamentarium of every surgeon doing major head and neck surgery. Demonstration will consist of the actual grafts as well as color slides.

COURSE 471

Room 712 — Period W-3

MERCER G. LYNCH, M.D.
New Orleans

Suspension Laryngoscopy and Intralaryngeal Surgery

The course will deal with a brief description of the apparatus, including the suspension laryngoscope as well as the suspension hook. In the description of the apparatus, special attention will be paid to the assemblage of the parts and

to the function of each part in facilitating ease of operation. The discussion of the use of the instrument and its application will also include the type of anesthesia best suited for use in suspension laryngoscopy and the advantages and disadvantages of various anesthetics.

The last half of the period will deal with the technique of intralaryngeal surgery, including removal of benign and malignant lesions, removal of scars and webs, plastic procedures of the larynx, and the Thornel operation.

COURSE 472

Room 715 Period W-1

JOHN E. MAGIELSKI, M.D.
Ann Arbor, Mich.

Trauma of the Larynx and Trachea

Traumatic injuries of the larynx and trachea appear to be common complications of automobile and industrial accidents in recent years. The management of the injured larynx and trachea has always been, and will continue to be, a problem to laryngologists. This discussion will be directed to the recognition of important symptoms and signs in the patient with an acutely injured larynx. The management of the acute injury and the problems of stenosis following injury will be described. Methods of repair of stenosis of the larynx and upper trachea will be discussed, utilizing case reports.

COURSE 473

Room 710 Period W-2

JAMES H. MAXWELL, M.D.
Ann Arbor, Mich.

Diseases of the Salivary Glands: Differential Diagnosis

This course consists of a discussion of the clinical procedures which are useful in the differential diagnosis of the more common inflammatory and neoplastic diseases of the salivary glands.

The techniques and objectives of sialography will be described.

The treatment of ranula will be discussed briefly in addition to a consideration of inflammatory cysts of the major salivary glands.

Time will be allowed for discussion at the end of the period.

COURSE 474

Room 728 Period W-1

JAMES W. McLAURIN, M.D.
Baton Rouge, La.

The Child Without Speech: Differential Diagnosis and Treatment

The child without speech is encountered by the otolaryngologist today more than ever before. The day has almost passed when the physician told the parents that a child was too normal otherwise to have anything wrong with his hearing, or that he would probably grow out of his unawareness of sound, or that if his hearing was impaired he must wait until he was 5 or 6 years old before he could be tested. This is as it should be, but in recent years there has been so much emphasis on the testing of young children by special techniques and trick methods that some of us are forgetting basic principles. In this course I shall attempt to present ideas as to how the average otolaryngologist can reach a working diagnosis, and shall offer some suggestions as to the type of therapy indicated.

COURSE 475

Room 710 Period T-2

WILLIAM J. McNALLY, M.D.
Montreal, Que., Canada

Labyrinthine Tests

This course is designed to present the basic or elementary facts which are necessary for an understanding of clinical labyrinthine tests. Much of the time will be taken up in studying the actual methods used in carrying out the various tests. Time will also be given to working out the interpretation of reactions which follow the simple tests. The simplicity of the tests will be stressed. As a brief introduction, the anatomy and physiology of the semicircular canals and the otoliths will be reviewed. The examination of spontaneous phenomena will be con-

sidered. Guides for the detection of spontaneous nystagmus will be given. An interpretation of past-pointing tests and their relation to vestibular stimulation will be studied. The technique of performing the caloric and rotation tests will be taken up in detail. The rules which govern labyrinthine reactions will be used to interpret the results of these tests. Finally, the significance of the results of the tests in labyrinthine and intracranial diagnosis will be investigated.

COURSE 476

Room 710 Period T-3

PHILIP E. MELTZER, M.D.
Boston

Mastoid Cavity: Its Care Following Fenestration, Radical Mastoidectomy and Tympanoplastic Procedures

The subject matter of the course will include a discussion of causes of atresia of the external auditory orifice, also a discussion of conditions that occur following operation at any time from weeks to months, even years, after the operative procedure; cyst formation, breakdown of epithelial lining whether grafted or not, continuing suppuration, recurrent granulations and how to manage them, pros and cons of skin grafting and method of choice of skin grafting.

COURSE 477

Room 713 Period W-1

DAVID MYERS, M.D.
Philadelphia

Surgery of Chronic Otitis Media and Mastoiditis: Anterior-Posterior Mastoidectomy

The course will consist of a discussion of the problems in diagnosis and treatment of chronic otitis media and mastoiditis. The discussion will be continued to include the surgery of the middle ear and mastoid process in the presence of chronic otitis media, chronic mastoiditis, and cholesteatoma. During the past few years, changes in our technique have occurred because we are now able to carry out procedures through the ear speculum with the help of the Zeiss operating microscope and the magnification it offers. We now utilize the postauricular approach for disease in the mastoid process, and for disease in the middle ear, we use the middle ear approach. This is a new procedure called the anterior-posterior operation. It avoids the presence of a mastoid bowl and its problems. It also enable us to carry out operations attempting to improve the hearing by the speculum approach. The lecture will be illustrated by drawings and slides.

COURSE 478

Room 711 Period T-3

DAVID MYERS, M.D.
Philadelphia

Stapes Mobilization

The course will consist of a discussion of our experiences as they developed from the earliest days of stapes mobilization—from early efforts to use limited illumination and counterpressure to the present-day techniques with the Zeiss operating microscope.

At the present time and using various techniques, good results ranging from 48 per cent to 50 per cent can be obtained. My experience has shown that while primary results are good when some of the classic techniques are used, regressions are numerous. These results are the same, whether we cut the stapes free with various types of chisels or apply pressure to the head of the stapes. Therefore, in order to bring the patient's hearing to a practical level, something further must be done.

This latter group of patients can be aided by the fenestra-ovalis technique. I will detail our experiences with the fenestra-ovalis, using the Shea technique. This consists of completely removing the footplate of the stapes, and covering it with a vein graft, supplying a columella by the use of a plastic tube. Good results have been obtained with this technique. These cases will be reported. In addition, instruction in the use of the operating microscope and necessary instrumentation will be given.

COURSE 479

Room 711 Period W-3

JOSEPH H. OGURA, M.D.
St. Louis

MAX L. SOM, M.D.
New York

Conservation of Laryngeal Function in Cancer of the Larynx

Wide excision of more than limited cancerous lesions of the vocal cords and epiglottis can be obtained in selected cases without sacrificing laryngeal function. Cordal lesions which are too extensive for routine cordectomy via thyrotomy can be adequately excised by special procedures. The indications, technique and results of hemilaryngectomy for cordal carcinoma with extension posteriorly onto the arytenoid or laterally into the ventricle will be presented. The surgical treatment of anterior comissure lesions with bilateral thyrotomy and avoidance of stenosis by use of the McNaught tantalum splint will be discussed.

Lateral pharyngotomy as a surgical approach for extirpation of selected cases of carcinoma of the epiglottis will be illustrated. The indications, technique and results of subtotal suprahyoid laryngectomy with simultaneous neck dissection will be demonstrated. An analysis of the failures, with emphasis on the value of elective neck dissection, will be shown. The value of roentgen therapy for cordal lesions will also be discussed briefly.

COURSE 480

Room 711 Period Th-3

JOSEPH H. OGURA, M.D.
St. Louis

Radical Neck Dissection and Laryngeal Carcinoma

Carcinoma involving the larynx is usually best handled by radical extirpation. Lesions of the endolarynx and the subglottic area should be treated by total laryngectomy and radical neck dissection whether nodes are palpable or not. On the other hand, when the true cord or arytenoid is not involved, primary tumors of the pyriform sinus can be surgically removed by the transhyoid pharyngotomy approach. Carcinoma of the epiglottis without cordal involvement can be removed by the supraglottic subtotal laryngectomy and radical neck dissection procedure.

The various methods of handling tumors in this area will be discussed and techniques outlined by lantern slides and motion pictures.

COURSE 481

Room 728 Period T-3

JAMES J. O'NEIL, M.D.
Omaha

Aerosol Therapy in Otolaryngology

Inhalation therapy, based on a control series of 500 patients and since utilized as an adjunct in the management of over 5,000 otolaryngologic disorders, will be briefly reviewed, and the reasons for its past failures and its present success will be discussed.

The physiologic basis for its application to otolaryngology and the pharmacologic properties of the newer drugs studied will be given. Indications, contraindications, and a practical demonstration of its administration will be presented.

COURSE 482

Room 732 Period T-2

PETER N. PASTORE, M.D.
Richmond, Va.

The Throat: Nonsurgical Problems

The discoveries and writings of the past twenty-five years have disclosed multiple factors contributing to symptoms and related sensations of the pharyx previously classified as neurotic.

There are many functional conditions in the region of the throat which, on first glance or superficial thought, lend themselves to the diagnosis of globus hystericus or a neurosis of one kind or another. A study of the sensory and other neural pathways supplying the pharynx and adjacent structures would

disclose that there is a logical explanation for many of these symptoms. This is particularly true in reference to the common complaint of "a lump in the throat."

An effort to define the term "throat" properly and a general discussion of certain observations over a quarter of a century will be presented.

COURSE 483

Room 732 Period T-3

SAMUEL J. PEARLMAN, M.D.
Chicago

Certain Aspects of Aging in the Ear, Nose and Throat Regions

The intent of this presentation is to clarify ideas and to determine an approach to practical therapy.

The topics discussed will include dizziness in the aged, presbycusis and accompanying tinnitus; dry mouth; sore tongue; varicosities and painful papillas of the tongue; and nosebleed in the aged.

Lantern slides will be shown.

COURSE 484

Room 728 Period W-2

HENRY B. PERLMAN, M.D.
Chicago

Fluid in the Middle Ear: Etiology and Management

Different kinds of fluid may be found in the middle ear and adjacent air cells. Each kind is associated with a particular pathogenesis. A clear understanding of the normal and pathologic physiology of the eustachian tube is essential to the interpretation of this group of ear diseases. The recognition of their more subtle changes and their relation to deafness is sometimes difficult. Careful observation of the natural course of the various disease states is also important in understanding indications and prospects of therapy. Experiences with some unusual cases seen during the past few years will be reviewed. A motion picture will be presented.

COURSE 486

Room 734 Period W-2

JOEL J. PRESSMAN, M.D.
Los Angeles

WALTER E. BERMAN, M.D.
Beverly Hills, Calif.

Cysts of the Neck: Diagnosis and Surgical Treatment

The preliminary presentation will include slide demonstrations of essentially all masses found in the neck together with a description of the differential diagnosis and a discussion of etiology. The demonstration will then encompass in greater detail the clinical picture of the congenital masses that are found, together with a slide demonstration of the surgical removal of a variety of types of such lesions. The presentation will include a discussion of laryngocele.

COURSE 487

Room 728 Period Th-2

BRUCE PROCTOR, M.D.
Detroit

Tympanoplasty

The combination of surgery for the control of middle ear inflammation and preservation or restoration of hearing is referred to as tympanoplasty. Hearing may be improved by reconstructing the sound mechanism for transmission of sound waves to the oval window and by restoration of sound protection for the round window. The following aspects will be discussed: (1) surgical anatomy of the middle ear; (2) physiologic objectives; (3) analysis of the pathologic changes and status of the middle ear before and during the surgical procedure; (4) the techniques employed in the various types of tympanoplasty; (5) a critical survey of the results achieved; and (6) analysis of failures.

COURSE 488

Room 710 Period Th-3

WILLIAM F. RABBETT, M.D.
New York

Submucous Resection of the Nasal Septum

Surgical anatomy of the nasal septum and framework of the external nose will be reviewed.

A simplified technique for the surgical correction of the deviated nasal septum, as taught at the Manhattan Eye, Ear and Throat Hospital, will be presented.

Surgical management of the anterior deviated nasal septum with obstruction of the nares will be considered.

The relative importance of the septum in plastic surgery of the nose will be discussed.

COURSE 489

Room 731 Period W-1

AUBREY G. RAWLINS, M.D.
San Francisco

The Corticosteroids in Otolaryngology

In general, the corticoids function in maintaining a normal structure in the mesenchymal tissues. However, we seldom use them in a physiologic manner. We use them in pharmacologic doses. In the practice of otolaryngology, the corticoids are used mainly as anti-inflammatory agents. Inflammation will be discussed and explained. The dangers of using these hormones will be discussed. How do we prevent these dangers? Is the length of the treatment more important than the size of the dose? Does cortisone have advantages over the newer products? Relationship between corticoids and thyroid will be discussed as well as the following factors: difficulty in diagnosing hypothyroidism; basal metabolic rate and protein bound iodine test not accurate (a simple and more accurate test described); definite indications for the use of the corticoids; questionable indications; contraindications; questions to be asked of the patient before using corticoids; special tests; specific dosage.

COURSE 490

Room 734 Period T-2

GEORGE F. REED, M.D.
Boston

Neck Dissection

This course will attempt to present in a simplified, step-by-step fashion, a technique for routine radical neck dissection. The technique has been so organized as to make step-by-step approach feasible, easy to apply, and easy to remember. The various steps will be outlined and demonstrated in both still and motion picture photography.

COURSE 491

Room 743 Period W-1

SCOTT N. REGER, Ph.D.
Iowa City

Practical Office Audiometry

This course will comprise (1) the common sources of error in audiometry; (2) an adequate testing procedure; (3) the use of masking while obtaining air and bone conduction measurements; and (4) interpretation of audiograms.

COURSE 492

Room 734 Period T-3

HERBERT J. RINKEL, M.D.
Kansas City, Mo.
BY INVITATION

The Nature of Food Allergy

Food sensitization is presented as being of two main types, the fixed or permanent and the cyclic form. Cyclic food allergy may be primary perennial, it may be concomitant, or it may be thermal. The nature of these reactors and the characteristics of their clinical manifestations will be given in detail.

The usage, the value, and the limitations of the food diary records will be emphasized. The value of elimination diets and especially prescribed diets will be covered in detail.

COURSE 493

Room 706 Period Th-3

HERBERT J. RINKEL, M.D.
Kansas City, Mo.
BY INVITATION

Specific Diagnosis in Allergy

A. Foods

Part one will be concerned with the diagnosis of food sensitization:

1. History
2. Skin tests
3. Deliberate feeding tests
4. The cytotoxic cell test

The sources of error in such testing, the average accuracy, and the subsequent clinical application of the tests will all be given.

B. Inhalants

In part two, a method of determining inhalant degree of sensitivity will be presented with natural-colored photographs showing such types of response. The clinical significance of this test will be detailed.

COURSE 494

Room 738 Period T-2

SAM E. ROBERTS, M.D.
Kansas City, Mo.

Neurovascular Dysfunctions of the Eighth Nerve

Little strokes are single or multiple thromboses involving little arteries or arterioles occurring anywhere in the body. I believe they occur more frequently, and usually primarily, in the acoustic and static labyrinth.

Wolff quite logically stresses that the small caliber of the nutrient vessels to the labyrinth predisposes to frequent and disastrous pathologic changes. She believes that a considerable degree of peripheral vascular disease need NOT exist before a lesion occurs, not only in its minute peripheral branches but also in its main channel to the labyrinth.

Otologists should, therefore, be alerted to diagnose this condition before extensive neurovascular damage has taken place. There is only a short period of grace in which the lesion is reversible or arrestable in this extremely sensitive region. Little strokes are only warnings. They may or may not portend a future catastrophic vascular accident elsewhere. The etiologic genesis is probably identical; therefore, we should attempt to anticipate coronary and other arterial occlusions with a view toward prevention, if possible. This makes for medical progress. The possible etiologic factors, the pathologic changes and the suggested treatment will be discussed.

COURSE 495

Room 743 Period W-2

BERNARD J. RONIS, M.D.
Philadelphia

Chronic Sinusitis: Diagnosis and Treatment

The diagnosis of chronic disease of the paranasal sinuses requires systematic review of the patient's history and clinical findings. The evaluation of the cellular pathology of sinus secretions and biopsy of the mucous membrane offers a means of differentiating subacute, chronic, specific, nonspecific or neoplastic disease. The inflammatory changes in the nose and sinuses exhibit similar basic reactions seen in other organs. The results of medical and surgical treatment can be prognosticated with some degree of accuracy in such disorders as sarcoidosis, chronic infection and benign or malignant lesions of the sinuses.

Benign pathologic alterations in the sinus epithelium are common and may be extensive, with the resultant metaplasia filling the sinus with papillary or polypoid mucosa.

The medical treatment of chronic sinusitis with those potent agents—the antibiotics, antihistaminics and steroids—is important today.

Surgical measures are necessary less frequently, but they are indicated in certain instances. These indications will be discussed. The type of operation must fit the needs of the individual patient.

In review of this problem the following are considered:

1. Methods of diagnosis
2. Technique of biopsy of sinus mucosa and result of histologic study
3. Adequate medical treatment
4. Indications for operation
5. Choice and techniques of operation
6. End results of sinus operation

COURSE 496

Room 731 Period Th-1

SAMUEL ROSEN, M.D.
New York

Surgical Anatomy of the Vestibule with Reference to the Stapedial Footplate

Fenestration of the oval window through the still rigid footplate after all efforts at mobilization at the neck and footplate have been exhausted has restored hearing up to the normal level with complete closure of the air-borne gap. This has occurred whether the ossicular chain is interrupted or not. Hearing improvement in such cases has been maintained for almost three years to date. This phenomenon must now be explained, especially with the help of acoustic physiologists. The material will consist of fenestrated stapes (cadaver) specimens, case studies with audiograms, and a film demonstrating the technique. The surgical anatomy of the vestibule with relation to the stapes will be shown in diagrams and models

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COURSE 497

Room 728 Period Th-1

ROBERT E. RYAN, M.D.
St. Louis

Headache: Differential Diagnosis and Treatment

The differential diagnosis and the treatment of various types of headache will be presented. Among types of headache to be discussed are migraine, histaminic cephalalgia, sinusitis, myalgia, tension headache, psychogenic headache, hypertensive headache, post-traumatic headache, and ocular or otic headache, as well as the mixed type.

Various new preparations for treating headache patients will be discussed and the results of treatment demonstrated. Many of these drugs are still in the investigative stage, while others have been on the market for only a short period of time. The prophylactic and the symptomatic phases of the various types of headache will be discussed.

Techniques for recording the history of the headache patient and for routine examination will be outlined.

COURSE 498

Room 732 Period Th-1

WILLIAM H. SAUNDERS, M.D.
Columbus, Ohio

Oral Lesions: Treatment and Clinical-Pathologic Correlation

Two screens will be used on which to show oral lesions and their corresponding microscopic sections (both in color). This presentation, which permits the audience to view both the actual lesion and its color photomicrograph simultaneously, fixes in memory why the clinical lesion looks and behaves as it does.

Some of the lesions shown represent common oral diseases, the exact nature of which the practicing physician may have forgotten because of unfamiliarity with microscopic pathology. Other lesions represent diagnostic rarities which lend themselves well to clinical-pathologic correlation.

COURSE 499

Room 743 Period W-3

E. W. SCHELDRUP, M.D.
Iowa City
BY INVITATION

Surgical Anatomy of the Neck for Otolaryngologists

The anatomy of those regions of the neck that are most commonly invaded surgically by the otolaryngologist will be discussed and visualized through the medium of appropriate lantern slides and chalk sketches. Special attention will be devoted to those few but significant anatomic relationships and landmarks which not only facilitate proper orientation of the surgeon in the various regions discussed but also aid in the prevention of damage to the important neurovascular (and other) structures contained therein. Surgical approaches to the various regions will be emphasized. Practical aspects will keynote the entire discussion.

COURSE 500

Room 726 Period Th-1

HAROLD F. SCHUKNECHT, M.D.
Detroit

The Technique for Removal and Preparation of Temporal Bones for Anatomical-Surgical Dissection and Pathological Study

A motion picture and lantern slides will be used to demonstrate the method for removal of the temporal bone for anatomical-surgical dissection. Use of the bone plug cutter used in the Stryker saw is an easy technique which results in excellent preservation of the external auditory canal and middle ear as well as most of the mastoid air cell system, and provides a good specimen for transtympanic and mastoid surgery. The specimens can be kept in a deep freeze until used.

Methods for diminishing postmortem degeneration of specimens to be studied for pathological changes will be discussed.

COURSE 501

Room 744 Period T-3

HAROLD F. SCHUKNECHT, M.D.
Detroit

Oval Window Prostheses in the Management of Otosclerosis

During the past several years, there has been an evolution of techniques to improve the surgical correction for stapes ankylosis. The first attempts consisted of indirect methods of mobilizing the footplate by force exerted through the crura. Because this resulted very frequently in fracture of the crura, the next techniques were directed at direct mobilization of the footplate. Because of continued high percentages of reankylosis, the next step was the development of prostheses—some utilizing the footplate and others utilizing membrane replacements of the footplate. This course will deal with techniques for introducing the prostheses and a survey of the results obtained thereby. Surgical instruments used in these operations will be demonstrated.

COURSE 502

Room 732 Period Th-2

LYLE M. SELLERS, M.D.
Dallas

The Office Practice of Otolaryngology

Here are the procedures found by thirty-five years' experience to be most effective in the office practice of otolaryngology. The course will begin with the introduction of the patient to proper office procedures by the receptionist. It will continue with methods of keeping records, both professional and business; putting the patient at ease in the presence of strange and perhaps awesome environment; dealing with the patient as a sick and frightened human being; the successful approach to and the human handling of children.

Special attention will be given to the technical procedures in the course of treatment that have proved to be of most value in the ordinary as well as in unusual clinical problems. Consideration will also be given to office equipment and how to keep it modern and workable without the extravagant purchases of new gadgets that prove to have little or no value beyond the passing moment. In short, the discussion will be based on how best to conduct yourself and your office that out of your practice will come that which will be of lasting benefit to your patients and to you.

COURSE 503

Room 744 Period W-1

LYLE M. SELLERS, M.D.
Dallas

Dizziness: Its Cure or Relief

The practical, simple and direct methods for the cure or the relief of dizziness as developed by many years' practice in this field of otology are offered in this course.

Only enough of the anatomy and physiology of the vestibular labyrinth will be given to assure understanding of the clinical tests. The tests themselves, when divested of theoretical adventitia, actually are very easily performed and interpreted.

Because the particular type of dizziness or dysfunction must be identified before successful treatment can be instituted, differential diagnosis will be stressed.

When identification of the cause is accomplished, the proper treatment evolves

logically and easily. It is this phase of the problem that will be emphasized by the discussion of actual cases with their problems in diagnosis and successful treatment.

Ample time for questions and answers will be allowed.

COURSE 504

Room 744 Period T-1

ALBERT P. SELTZER, M.D.
Philadelphia

Plastic Surgery of the Nose: New Instruments

A typical rhinoplasty will be described. This presentation will include a discussion of the basic principles involved and will be illustrated step-by-step to the postsurgical result. Instruments including the electric saw will be presented in detail. New instruments such as the automatic chisel; improved grooved directors for molding the tip of the nose; cartilage clamp, and a nasometer for determining nasal obstruction both before and after operation will be discussed. Other new instruments used to shorten the operation and give a more accurate, surgical correction of the external nasal deformity will be presented.

A brief motion picture will be presented in which the nose of a patient was completely lost and then replaced within 30 minutes after the nose was found. The results were good.

COURSE 505

Room 744 Period W-2

BEN H. SENTURIA, M.D.
BENARD C. ADLER, M.D.
St. Louis

Middle Ear Effusions

For some time the many varieties of effusions in the middle ear have been under investigation. Diagnostic criteria have been submitted to critical evaluation. The chemical, bacteriologic and cytologic properties of the fluid, the histopathologic changes in the mucoperiosteal lining of the tympanum, the audiologic picture, allergic factors and radiologic mastoid findings have been assessed.

The therapeutic approach has included the development of special instruments for aspiration of the middle ear fluid. Various enzymes to solubilize the protein-carbohydrate complex in the fluid have been tested. Finally a statistical review of the laboratory findings and the results of clinical therapy in approximately two hundred patients will be presented.

COURSE 506

Room 744 Period T-2

GEORGE E. SHAMBAUGH, JR., M.D.
Chicago

Surgical Application of the Mechanics of the Middle Ear

The middle ear is a mechanical device for overcoming the air-water-sound barrier. It does this by sound pressure transformation for the oval window with sound protection for the round window. Each pathologic lesion of the outer and middle ear produces its characteristic pattern of audiometric impairment and each requires a particular surgical technique for the deliberate reconstruction of an effective mechanical device. Surgical techniques for improving the hearing in osteoma of the meatus, fibrous atresia of the meatus, bony atresia of the meatus, various malformations of the ossicular chain, otosclerotic stapes fixation, traumatic interruption of the ossicular chain, and the various types of middle ear changes following suppurative diseases will be described with illustrative case reports and hearing results.

COURSE 507

Room 744 Period W-3

JOHN J. SHEA, JR., M.D.
Memphis

Fenestration of the Oval Window

This operation is a combination of the best features of fenestration of the lateral semicircular canal and mobilization of the stapes. It was developed for those cases in which the otosclerotic invasion of the stapes was so extensive that the

ordinary methods of mobilization were not effective. When the invasion of the stapes is widespread, then the arch of the stapes is removed and the mucoperiosteum is carefully taken away for a distance of about one millimeter surrounding the oval window. As much of the footplate as possible is then removed, using sharp picks and special stainless steel fistula hooks or a very small cutting burr in the contra-angle handpiece. The fenestra is then covered with a short length of vein graft removed from the back of the hand, with the intima side upward and the adventitia side downward toward the fenestra. The sound conducting mechanism is then rebuilt with a short length of polyethylene 90 tubing which is placed between the center of the vein graft and the lower end of the incus.

The results to date with this new operation have been very encouraging.

COURSE 508

Room 732 Period T-1

GEORGE A. SISSON, M.D.
Syracuse, N. Y.

Head and Neck Surgery: Problems and Complications

The otolaryngologist who undertakes surgery of the head and neck must be extremely well informed in the total care of the patient. Meticulous attention must be given to preoperative preparation, to the selection and performance of the proper operative procedure, and to the rigors of postoperative care. However, success or failure often hinges on rehabilitation. Problems and complications ensue in each of these phases and deter orderly progression from one stage to another. A surgeon must be ready at all times with an alternate course should complications or unexpected problems confront him. The management of these problems, as encountered, will be discussed, and kodachrome slides will be projected.

COURSE 509

Room 733 Period Th-2

EMANUEL M. SKOLNIK, M.D.
Chicago

Head and Neck Surgery: Errors and Safeguards

The head and neck area contains a concentration of major anatomic structures almost unnoticed elsewhere in the human body insofar as their damage affects the cosmetic appearance and functional capacities of the individual.

The subject matter will be discussed according to the similar types of tissues in the area (muscles, nerves, vascular structure, etc.) rather than on purely anatomic grounds. Lantern slides will be adequate to demonstrate the various incisions and the contiguous anatomy. The management of complications will be stressed.

COURSE 510

Room 713 Period Th-3

BURTON J. SOBOROFF, M.D.
Chicago

Intranasal Tumors: Diagnosis and Surgical Management

Tumors of the nasal cavity present specific problems of diagnosis and management. The pathology, diagnostic procedures and surgical approaches to these benign and malignant tumors will be discussed.

The advantages of wide exposure through a lateral rhinotomy approach will be emphasized and illustrated with kodachrome slides.

COURSE 511

Room 734 Period W-3

FRANCIS A. SOOY, M.D.
San Francisco

Surgical Anatomy of Stapes Mobilization

Stapes mobilization is neither a simple nor an innocuous procedure. The author's personal experience in six hundred cases forms the basis in outlining the anatomic problems in obtaining adequate exposure, and anatomic factors which may be helpful in avoiding such complications as corti-tympanic interruption, facial nerve injury, and footplate perforation.

COURSE 512

Room 713 Period Th-2

MARTIN SPECTOR, M.D.
Philadelphia

Dizziness: Differential Diagnosis

The history and examination will be approached from the viewpoint of the otologist in his office. Details of the history and examination will be discussed, and their significance stressed. An orderly outline for taking the history will be presented. Steps in the examination will be described. Postural vertigo and nystagmus will be stressed particularly, since they are so often missed. Criteria for consultations, roentgenograms, and laboratory tests will be discussed.

COURSE 513

Room 728 Period Th-3

JOSEPH A. SULLIVAN, M.D.
J. BRYDON SMITH, M.D.
Toronto, Ont., Canada

Facial Palsies and Their Treatment

Recent interest in stapes mobilization, tympanoplasty and myringoplasty has forced the otologist to adopt magnification in order to carry out these procedures.

It is hoped that such magnification will reduce the number of postoperative facial palsies. However, despite all precautions, accidents can, and do, happen. This course is designed to advise the otologist when to decompress the facial nerve and the correct method of doing so. The variations of facial nerve repair and their end results will be discussed.

COURSE 514

Room 734 Period W-1

HAROLD G. TABB, M.D.
New Orleans

Surgical Approaches to the Nasopharynx

Two basic surgical approaches for operative procedures on the nasopharynx and the palatal fenestration procedure for creation of a permanent window for radiation treatment of nasopharyngeal carcinoma will be described in detail. The technique and illustrative cases will be shown on kodachrome slides.

COURSE 514-A

Room 738 Period Th-2

JUAN MANUEL TATO, M.D.
Buenos Aires, Argentina

Speech Audiometry: New Developments

This lecture will be based on the classical and fundamental knowledge of speech audiometry and its clinical applications. Various modifications have been created to improve the clinical significance of this type of testing, especially in the diagnosis of cerebral lesions. These modifications of speech audiometry have additional applications in the selection of hearing aids and in auditory training.

COURSE 515

Room 776 Period T-2

GEORGE DEKLE TAYLOR, M.D.
Jacksonville, Fla.

Esophageal Disease: Diagnosis and Management

The anatomy and physiology of the esophagus as it applies to clinical problems in the practice of otolaryngology will be reviewed. Practical esophageal problems encountered in private practice will be discussed from the standpoint of diagnosis and treatment. Types of anesthesia and methods of dilatation will be mentioned. The anatomy, case discussions, and techniques will be illustrated by roentgenograms and kodachrome slides.

COURSE 516

Room 710 Period Th-2

G. EDWARD TREMBLE, M.D.
Montreal, Que., Canada

Practical Therapeutics in Office Practice

In this course a number of common conditions encountered every day by otologists will be discussed.

1. Nasal obstruction due to engorged or hypertrophied inferior turbinates; its treatment
2. Methods of shrinking the posterior tips
3. The conservative treatment of sinusitis in view of our present knowledge
4. A safe and simple method of irrigating the sphenoid sinus. This is important in cases of optic neuritis. A 6-minute motion picture in color will present a few important measurements and instruments used in this procedure
5. The tonsil and adenoid problem, with special reference to the clinical anatomy and treatment of the lingual tonsils
6. If time permits, some practical points will be mentioned about external otitis. Treatment in this condition has changed considerably in the past ten years due to our greater knowledge. The relative merits of the current antibiotics will be described and a number of suggestions given.

COURSE 517

Room 727 Period Th-3

FREDERICK M. TURNBULL, JR., M.D.
Los Angeles

Carcinoma of the Paranasal Sinuses and Nasal Cavities

Cancer of the paranasal sinuses comprises 2 per cent of the cancers of the head and neck, and occurs in 3 per cent of cancers of the upper respiratory and alimentary tracts. The predominant type of cancer is epidermoid, although sarcoma, adenocarcinoma, and mucoepidermoid tumors may be encountered rarely.

The early symptoms are nonspecific, and a roentgen film without signs of bone destruction never excludes a malignant tumor. For this reason chronic sinusitis should not be treated conservatively for a prolonged period of time, and when tissue is removed by minor operations on the nose and sinuses the material should invariably be studied histologically.

Treatment should accomplish the widest possible excision of the growth, or, failing removal of the tumor, should provide adequate drainage and assure sufficient removal of the growth so that radiation therapy can be more effectively applied.

Results of treatment of extensive malignant tumors of these areas have been improved by the introduction of electrosurgical and radiotherapeutic methods. Radiotherapy may precede or follow surgical removal or electrocoagulation of the cancer. The best statistical results have been obtained by electrocoagulation of the entire maxilla cavity preceded by external roentgen therapy and followed by intercavity radium.

The retropharyngeal nodes should be included in radiotherapy treatment, since all metastases from these areas first go to these nodes, and only later spread to the lateral deep cervical nodes.

Illustrative slides of cases and statistics, and a motion picture of the surgical procedure for cancer of the maxillary sinuses will be shown.

COURSE 518

Room 734 Period Th-2

O. E. VAN ALYEA, M.D.
Chicago

Sinusitis: Modern Trends in Management

Persistence of a sinus infection implies inadequate drainage. Factors contributing to impairment of drainage may be local or systemic. The local factors may be structural or pathologic, and in some cases the sinusitis is maintained by a combination of contributing causes.

The goal of the rhinologist is to eliminate the causative factors while treating the infection.

Seldom is the radical removal of sinus mucosa in the treatment of sinusitis indicated, and it should be undertaken with the understanding that only temporary relief may be expected and that a return of the symptoms, even more pronounced than formerly, may ensue.

In this course the techniques of various therapeutic measures used successfully in the management of sinus disease will be discussed in detail.

COURSE 519

Room 734 Period Th-3

LINDEN J. WALLNER, M.D.
Chicago

Diseases of the Larynx: Kodachrome Clinic

As the title implies, the course will consist principally of the showing of a collection of kodachrome slides illustrating the common, as well as many of the more unusual, laryngeal diseases. This will include both acute and chronic inflammation, and the aspects of tuberculosis before and after antimicrobial therapy. There will be instances of cysts, singer's nodes, granuloma from endotracheal tubes, conditions considered to be the result of smoking, foreign bodies, injuries, and benign and malignant tumors. In many cases the appearance before and after treatment will be shown.

COURSE 520

Room 776 Period T-1

LINDEN J. WALLNER, M.D.
Chicago

An Operation for the Closure of Oroantral Fistula

Extraction of one of the upper molar teeth is the usual cause of oroantral fistula. These fistulas may be divided into two types: the acute (of recent origin) and the chronic.

Acute oroantral fistula is treated by avoidance of manipulation of the fistula, antimicrobial therapy and intranasal irrigations of the antrum when suppuration is demonstrated. Most acute fistulas will close when managed in this manner.

In chronic oroantral fistula the pathologic changes consist of an epithelized tract, localized osteitis and chronic maxillary sinusitis. The treatment advised is, first, to relieve the sinus infection by means of an intranasal antrotomy or the Caldwell-Luc operation. After this has been accomplished a plastic procedure to close the fistula is performed. A colored motion picture will be shown to demonstrate the pathologic changes and steps in the correction of a case of oroantral fistula. The plastic operation shown is the one described by Berger, in which a flap is fashioned from the lateral aspect of the alveolus.

COURSE 521

Room 776 Period T-3

DELMAR F. WEAVER, M.D.
Detroit

Tumors of the Face: Management

A variety of benign and malignant tumors of the face will be illustrated by kodachrome slides. The methods of surgical treatment used on these tumors and the reconstruction of postoperative defects will be discussed and illustrated in some detail. Treatment includes simple excision and electrocoagulation of small tumors as well as more extensive procedures requiring removal of bone or cartilage in the regions of the frontal and maxillary sinuses, the mastoids, the nose and ears.

Reconstructive procedures include free skin graft, adjacent flaps, pedicle flaps from the forehead, and tubed pedicle flaps from the clavicular region.

COURSE 522

Room 776 Period W-1

DeGRAAF WOODMAN, M.D.
New York

Glottic Obstruction: Techniques for Correction

1. Open approach to arytenoidectomy for bilateral abductor paralysis
2. Corrective operation for laryngeal stenosis
3. Treatment of laryngeal web
4. Operation for obstructive papilloma

Discussion of the above problems will be supplemented by slides and a colored motion picture with sound.

COURSE 523

Room 732 Period Th-3

GEORGE H. WOODRUFF, M.D.
Joliet, Ill.

Epistaxis and Its Management

Nasal hemorrhage is a frequent and often a rather troublesome problem for the otolaryngologist. The aim of this course is to present the most efficient methods for controlling nosebleeds of different kinds. The vascular anatomy of the nasal chambers will be described in some detail, with special attention to the so-called naso-nasopharyngeal plexus. Since the method of control depends a great deal on the location of the bleeding point, the favored sites for bleeding will be discussed. Various methods used for control will be presented and their usefulness in various types of nosebleed will be evaluated.

COURSE 524

Room 776 Period W-3

SIDNEY K. WYNN, M.D.
Milwaukee

Plastic Repair of Facial Injury: Basic Principles

Early intensive therapy of severe facial injuries will in many cases prevent many months of later reconstructive surgery. Proper cleansing, debridement, irrigation, meticulous suturing and use of antibiotics will be discussed.

HOME STUDY COURSES

Application forms for the 1959-1960 Home Study Courses may be secured from Dr. William L. Benedict, Executive Secretary-Treasurer of the Academy, 15 Second Street S.W., Rochester, Minnesota. Registrations should be completed before August 15.

The faculties for the Home Study Courses include members of the American Boards and of the staffs of leading teaching institutions throughout the country. This facilitates the planning of courses that will be of maximum value as a supplement to other available postgraduate training.

The Courses are recommended by the American Board of Ophthalmology and the American Board of Otolaryngology, and by the directors of most residency programs.

WILLIAM L. BENEDICT, M.D.

The Following are Condensed Schedules of Courses Previously Described

CONTINUOUS COURSES — OPHTHALMOLOGY

COURSE	SPEAKERS	SUBJECT	PERIODS USED
1	Allen, J., et al.	Bacteriology & Infectious Diseases of the Eye	8 PERIODS M-4, M-5, T-4, T-5 W-4, W-5, Th-4, Th-5
2	Ascher	Aqueous Veins in Glaucoma	2 PERIODS M-4, M-5
3	Ballintine & Purnell	Clinical Tonography	2 PERIODS M-5, M-6
4	Becker & Kinsey	Studies of Aqueous Flow	2 PERIODS T-4, T-5
5	Bedell	Ophthalmoscopy	3 PERIODS M-4, T-4, W-4
6	Berliner	Recent Advances in Biomicroscopy	3 PERIODS M-6, T-6, W-6
7	Boeder	Practical Optics	2 PERIODS Th-4, Th-5
8	Braley	Fundus Lesions: Diagnosis with Slit Lamp	2 PERIODS W-5, W-6
9	Brockhurst	Indirect Ophthalmoscopy	2 PERIODS T-5, T-6
10	Brown et al.	Eye Muscles	8 PERIODS M-4, M-5, T-4, T-5 W-4, W-5, Th-4, Th-5
11	Byrnes	Ophthalmic Filters	2 PERIODS T-5, T-6
12	Callahan et al.	Ophthalmic Plastic Surgery: Fundamentals	8 PERIODS M-5, M-6, T-5, T-6 W-5, W-6, Th-5, Th-6
13	Clark, G.	Retinal Detachment	3 PERIODS M-4, T-4, W-4
14	Clark, W.	Surgery of Ocular Muscles	2 PERIODS Th-4, Th-5
15	Cooper	Principles of Muscle Surgery	2 PERIODS T-5, T-6
16 or 17	Copeland	Streak Retinoscopy	4 PERIODS M-4, M-5, T-4, T-5 or W-4, W-5, Th-4, Th-5
18	Costenbader	Muscle Problems	2 PERIODS M-4, M-5
19	Fonda & Sloan	Subnormal Vision	2 PERIODS T-4, T-5
20	Guibor	Orthoptics	3 PERIODS M-4, T-4, W-4
21	Harley	Lesions of 3rd, 4th & 6th Cranial Nerves	2 PERIODS W-5, W-6
22	Hollenhorst	Arterial Diseases as They Affect the Eye	2 PERIODS M-4, M-5
23	Hughes et al.	Ophthalmic Plastic Surgery: Advanced	8 PERIODS M-4, M-5, T-4, T-5 W-4, W-5, Th-4, Th-5
24	Iliff et al.	Ptosis	3 PERIODS Th-4, Th-5, Th-6
25	Jardon & Laubheimer	Fitting Ocular Prostheses	2 PERIODS W-4, W-5

CONTINUOUS COURSES — OPHTHALMOLOGY

COURSE	SPEAKERS	SUBJECT	PERIODS USED
26	Jones	Lacrimal Drainage Apparatus	2 PERIODS M-4, M-5
27	Knighton et al.	Practical Essentials of Glaucoma	9 PERIODS M-4, M-5, M-6, T-4 T-5, T-6, W-4, W-5, W-6
28	Leinfelder et al.	Diagnostic Aids in Neuro-ophthalmology	3 PERIODS Th-4, Th-5, Th-6
29	Lemoine et al.	Fundus Lesions	2 PERIODS W-5, W-6
30	Linksz	Physiology of Vision	2 PERIODS W-5, W-6
31	Masters et al.	Slit Lamp Biomicroscopy: Fundamentals	9 PERIODS M-4, M-5, M-6, T-4, T-5 T-6, W-4, W-5, W-6
32	McLean et al.	Practical Factors in Eye Surgery	4 PERIODS M-5, M-6, T-5, T-6
33	Mullen et al.	Ocular Emergencies	3 PERIODS M-4, M-5, M-6
34	Parks & Albert	Eso-Deviations	4 PERIODS W-5, W-6, Th-5, Th-6
35	Pischel et al.	Retinal Detachment	4 PERIODS M-4, M-5, T-4, T-5
36	Posner & Gorin	Office Gonioscopy	2 PERIODS T-4, T-5
37	Prewitt	Diagnosis & Treatment of Ocular Allergy	2 PERIODS W-5, W-6
38	Regan, C., & Boeder	Refraction	4 PERIODS M-4, M-5, T-4, T-5
39	Regan, E.	Cataract Surgery	2 PERIODS M-4, M-5
40	Rizzuti	Tumors of Lids & Ocular Adnexa	2 PERIODS Th-4, Th-5
41	Roberts	Glaucoma	2 PERIODS M-4, M-5
42	Rolett	Gonioscopy	2 PERIODS W-4, W-5
43	Romaine	Ocular Motility Surgery	4 PERIODS M-4, M-5, T-4, T-5
44	Romaine	Refraction: Problems & Treatment	3 PERIODS M-6, T-6, W-6
45	Schepens et al.	Retinal Detachment	12 PERIODS M-4, M-5, M-6, T-4, T-5, T-6, W-4, W-5, W-6, Th-4, Th-5, Th-6
46	Schimek & Bousquet	Clinical Gonioscopy & Tonography	2 PERIODS W-4, W-5
47	Schlaegel & Hungerford	Uveitis	2 PERIODS Th-4, Th-5
48	Simpson & Costenbader	Probing of Nasolacrimal Duct in the Infant & Adult	2 PERIODS T-4, T-5
49	Sloane	School Vision Testing	2 PERIODS T-4, T-5
50	Sloane	Telescopic Lenses	2 PERIODS T-6, W-4

CONTINUOUS COURSES — OPHTHALMOLOGY

COURSE	SPEAKERS	SUBJECT	PERIODS USED
51	Gettes	Prescription of Prisms & Drugs Used in Refraction	2 PERIODS W-5, W-6
52	Stow & Moss	Diagnostic & Therapeutic Office Procedures	2 PERIODS M-5, M-6
53	Theobald et al.	Histopathology	12 PERIODS M-4, M-5, M-6, T-4, T-5, T-6, W-4, W-5, W-6, Th-4, Th-5, Th-6
54	Thorpe	Intraocular Foreign Bodies	2 PERIODS W-4, W-5
55	Thorpe et al.	Advances in Slit Lamp Biomicroscopy & Applanation Tonometry	3 PERIODS Th-4, Th-5, Th-6
56	Thorpe & Allen, L.	Slit Lamp Gonioscopy	6 PERIODS M-4, M-5, M-6, T-4, T-5, T-6
57	Townes	Cataract Surgery	2 PERIODS W-5, W-6
58	Troutman et al.	Recent Advances in Ophthalmology	8 PERIODS M-5, M-6, T-5, T-6, W-5, W-6, Th-5, Th-6
59	Troutman	Enucleation Surgery	2 PERIODS T-5, T-6
60	Wheeler & Knapp	Concomitant Strabismus	4 PERIODS M-4, M-5, T-4, T-5
61	Home Study		10 PERIODS M-4, M-5, M-6, T-4, T-5 T-6, W-4, W-5, W-6, Th-4

SCHEDULE OF INDIVIDUAL COURSES — OPHTHALMOLOGY — Monday

Key M-4 — 2:00 p.m. to 3:00 p.m.

Course No.	SPEAKER	SUBJECT
104	Alvaro	Uveitis: Etiology & Treatment
105	Alvis	Glaucoma Surgery: Long-Term End Results
119	Bonner	Vascular Retinopathy
124	Calhoun	Epithelization of Anterior Chamber
127	Cassady	Toxoplasmic Retinochoroiditis
129	Chamberlain	Vertical & Horizontal Components in Strabismus
131	Chandler	Glaucoma Surgery
145	DeVoe	Surgery of Trauma
146	Diskan	Eye Screening Programs in Schools
152	Everett	Retinal Detachment
155	Fernandez	Beta Radiation in Pterygium Surgery
160	Fralick	Principles of Lid Surgery
161	Frayer	Retained Lens Protein After Operation & Trauma
198	Leopold	Chemotherapy
243	Scarney	Slit Lamp Biomicroscopy
264	Veirs	External Dacryocystorhinostomy & Corrective Procedures for Epiphora

Key M-5 — 3:15 p.m. to 4:15 p.m.

Course No.	SPEAKER	SUBJECT
102	Aldrich	Emotional Problems
140	Cutler	Cataract: Methods of Extraction
144	Day	Medical Exophthalmos
147	Duke	Lesions of the Lids
148	Dunlap	Divergence Anomalies
156	Ferrer	Contact Lenses
167	Gipner	Recent Advances in Ophthalmic Surgery
208	MacLean	Cataracts: Surgical Management
218	Miller	Corneal Diseases
236	Reese	Cataract Extraction
239	Rundles	Streak Retinoscopy
247	Simpson	Hemorrhage Into the Vitreous
263	Veasey	Refraction Difficulties

Key M-6 — 4:30 p.m. to 5:30 p.m.

Course No.	SPEAKER	SUBJECT
103	Allen, H.	Aseptic Technique in Ophthalmology
114	Berens	Cyclodiathermy, Cycloelectrolysis, Iridencleisis & Cyclodialysis
123	Buxton	Total & Partial Keratectomies
125	Carroll	Optic Nerve Lesions
128	Castroviejo	Corneal Surgery
133	Cholst	Central Fields: Methods & Techniques
134	Cohoe	Special Reading Instruction for Partially Seeing
136	Coston	Inflammatory & Degenerative Disease of the Retina
138	Cunningham	Types of Head Pain
141	Daily	Biomicroscopy of Vitreous & Fundus Oculi
157	Fink, W.	Binocular Problems in Routine Refraction
166	Gifford	Local Anesthesia with Special Reference to Deep Motor Block
175	Hunt	Problems in Accommodation
176	Jacobson	Electroretinography
190	Kornzweig	Clinical Embryology
207	Luce	Wound Healing
228	Paton	Corneal Surgery
230	Perera	Retinal Detachment
232	Pico	Dacryocystorhinostomy
240	Rychener	The Lacrimal Apparatus
244	Scheie	Congenital Glaucoma: Surgical Procedures
250	Spaeth, E.	Plastic Surgery
258	Theodore	Ocular Therapeutics
266	Weisser	Repair of Corneal Injuries

SCHEDULE OF INDIVIDUAL COURSES — OPHTHALMOLOGY — Tuesday

Key T-4 — 2:00 p.m. to 3:00 p.m.

Course No.	SPEAKER	SUBJECT
104	Alvaro	Uveitis: Etiology & Treatment
107	Andrew	Eye Diseases in Children
110	Atkinson	Advances in Anesthesia
124	Calhoun	Epithelization of Anterior Chamber
126	Cassady	Dacryocystitis & Lacrimal Drainage
140	Cutler	Cataract: Methods of Extraction
151	Egan	Cross Cylinder: Application & Theory
162	Fread	Ideal Refraction Equipment
163	Fry	Inflammatory & Degenerative Lesions at Posterior Pole of Eye
195	Leinfelder	Perimetry & Use of Tangent Screen
199	Lepard	Eye Diseases Common to Children
221	Naquin	Dislocation of the Lens
238	Ruedemann	Surgery of Vertical Muscles
249	Solanes	Surgery of Ocular Cysticercus
251	Spaeth, E.	Complicated Ptosis: Selection of Operation
254	Sugar	Classifications of Glaucoma
259	Theodore	External Diseases & Allergy
270	Wood	Macular Lesions

Key T-5 — 3:15 p.m. to 4:15 p.m.

Course No.	SPEAKER	SUBJECT
112	Bannon	Aniseikonia
115	Berens	Ophthalmic Surgery: Recent Trends
143	Davis	Sutures in Cataract Surgery
148	Dunlap	Divergence Anomalies
154	Falls	Clinical Manifestations of Constitutional Syndromes Involving the Head & Neck
164	Gartner	Fundus Diseases
185	Kennedy	Ocular Manifestations of Systemic Diseases
191	Kronenberg	Practical Ocular Therapeutics
203	Lloyd	Fundus Lesions of the Senile Eye
244	Scheie	Congenital Glaucoma: Surgical Procedures
248	Smith	Fractures of the Orbit
252	Spaeth, P., & Carmichael	Ocular Tumors
261	Uihlein	Neuralgias of the Head

Key T-6 — 4:30 p.m. to 5:30 p.m.

Course No.	SPEAKER	SUBJECT
106	Amenabar	Retinal Detachment
132	Chandler	Cataract Surgery
141	Daily	Biomicroscopy of Vitreous & Fundus Oculi
158	Fink, W.	Vertical Muscle Surgery
165	Gemeroy	External Diseases
167	Gipner	Recent Advances in Ophthalmic Surgery
168	Haas	Congenital Glaucoma
186	Kestenbaum	Reading Aids for Low Vision
200	Levy	Practical Uses of Contact Lenses
205	Long	Retinoblastoma & the Pseudoretinoblastomas
206	Lubkin	Psychosomatic Aspects of Ophthalmology
209	Mangold	Proper Fitting of Glasses
211	Mann, W.	Functional Visual Impairment
214	McGraw	Contact Lenses
216	Merriam	Ocular Radiotherapy
219	Morrison	Glaucoma: Office Management
230	Perera	Retinal Detachment
234	Pischel	Use of Light Coagulation Machine
241	Salleras	Corneal Surgery
242	Sarrail	Lid Surgery
243	Scarney	Slit Lamp Biomicroscopy
245	Schlossman	Pleoptics
255	Sutliff	Practical Fitting of Contacts

SCHEDULE OF INDIVIDUAL COURSES — OPHTHALMOLOGY — Wednesday

Key W-4 — 2:00 p.m. to 3:00 p.m.

Course No.	SPEAKER	SUBJECT
111	Bannon	Practical Aspects of Multifocal Corrections
121	Breinin	Electromyography
126	Cassady	Dacryocystitis & Lacrimal Drainage
139	Cusick	Ptosis Surgery
145	DeVoe	Surgery of Trauma
149	Dunlap	Accommodative Squint
159	Fox	Senile Entropion & Ectropion
169	Hague	Irradiation Therapy
171	Hedges	Neuralgias of the Head
172	Henderson	Intracranial Arterial Aneurysms
174	Hill, H.	Cataract Surgery
177	Jaeckle	Nonstrabismic Abnormalities of Binocular Vision
178	Jampolsky	Ocular Divergence
179	Jobe	Ophthalmic Instruments
187	King	Lamellar Corneal Transplantation
195	Leinfelder	Perimetry & Use of Tangent Screen
204	Lloyd	Diseases of the Cornea
210	Mann, M.	Hypertensive Vascular Changes in the Fundus
233	Pino	Aids to the Ophthalmologist in Office Practice
253	Steffensen	Senile Macular Degeneration
267	Wendland	Magnetic Intraocular Foreign Bodies
268	Weston	Astigmatism

Key W-5 — 3:15 p.m. to 4:15 p.m.

Course No.	SPEAKER	SUBJECT
101	Aebli	End Results of Muscle Surgery
113	Belmont	Refraction
116	Berke	Ptosis
130	Chamlin	Perimetry
153	Falls	Ocular Geriatrics
180	Johnson	Ptosis
183	Katz, D.	Ophthalmic Anatomy
186	Kestenbaum	Reading Aids for Low Vision
189	Klien	Clinical Pathology of the Retina
193	Lassiter	Pathology of Ophthalmoscopically Visible Lesions
194	Leahey	Corneal Transplantation
196	Lennon	Angle Closure Glaucoma
214	McGraw	Contact Lenses
215	McGuire	Cataract
229	Paulson	Lighting for Comfortable & Accurate Seeing
231	Pfeiffer & Jones, I.	Roentgenography of Eye & Orbit
237	Rucker	Paralysis of the Ocular Motor Nerves
265	Weingeist	Lacrimal Sac Surgery

Key W-6 — 4:30 p.m. to 5:30 p.m.

Course No.	SPEAKER	SUBJECT
108	Asbury	Practical Genetics in Everyday Office Practice
109	Ascher	Cyclodialysis
122	Brown	Fever Therapy in the Light of Recent Drugs
170	Halberg	Tear Formation
173	Hilding	Mechanics of Vitreous Motion
181	Joy	Chronic Glaucoma
182	Kasper	Dacryocystorhinostomy
184	Katz, I. H.	Common Eye Diseases of Dogs & Their Therapy
191	Kronenberg	Practical Ocular Therapeutics
192	Kronfeld	Present Trends in Ocular Pharmacology
197	Leopold	Advances in Ophthalmic Therapy
201	Lewis	Mechanical Visual Aids
213	Marshall	Chronic Infections of the Lids
219	Morrison	Glaucoma: Office Management
220	Murrah	Subnormal Vision
223	Newell	Radioactive Isotopes
225	Ogle	Stereopsis
246	Shipman	Scleral Resection
256	Tait	Heterophoric Asthenopia
257	Tassman	Eye Involvement in Systemic Diseases
260	Trent	Progress in Ophthalmology
261	Uihlein	Neuralgias of the Head
262	Vail	Senile Cataract

Key Th-4 — 2:00 p.m. to 3:00 p.m.

Course No.	SPEAKER	SUBJECT
116	Berke	Ptosis
117	Block	Office Practice of Ophthalmology
118	Bonaccolto	Enucleation Techniques
120	Breakey	Rehabilitation in Ophthalmology
135	Cohen	Eye Problems in Community Health
137	Cowen	Pool Gonioscopy
142	Davidson	Surgical Instruments
188	King	Transplantation of Preserved Ocular Tissues
202	Linn	Evaluation of Patient for Glaucoma Operation
212	Marks	Electrical Currents Used in Ophthalmology
217	Meyer	Glaucoma: Surgical Treatment
224	Newell	Refinements in Ophthalmic Surgery
226	Ogle	Binocular Oculomotor Coordination & Imbalances
227	Olson	Iritis, Iridocyclitis, Keratitis
235	Post	Refinements of Refraction
269	Wise	Retinal Vascular Disease

Key Th-5 — 3:15 p.m. to 4:15 p.m.

Course No.	SPEAKER	SUBJECT
150	Edwards	Abnormal Effects of Prescribed Lenses on Extrinsic Muscles
222	Nethercut	Chorioretinopathies

CONTINUOUS COURSES AND PANEL DISCUSSIONS
OTOLARYNGOLOGY

COURSE	SPEAKER	SUBJECT	PERIODS
301	Anderson	Rhinoplasty: Practical Considerations	2 PERIODS T-1, T-2
302	Blumenthal	Ocular Conditions Associated with Otolaryngology	2 PERIODS Th-2, Th-3
303	Brewer & Briess	Head & Neck Symptoms Associated with Laryngeal Microtrauma	2 PERIODS T-2, T-3
304 or 305	Conley & Lenz	Carcinoma of Head & Neck	2 PERIODS W-1, W-2 or Th-1, Th-2
306	Converse	Principles of Nasal Plastic Surgery—Basic	2 PERIODS T-2, T-3
307	Converse	Principles of Nasal Plastic Surgery—Advanced	2 PERIODS Th-2, Th-3
308 or 309	Daly & Friedman	Cancer of Head & Neck	2 PERIODS T-1, T-2 or W-1, W-2
310	Fox & Gloria	Noise in Industry	2 PERIODS T-2, T-3
311 or 312	Froeschels & Beebe	Speech & Voice Therapy	2 PERIODS T-1, T-2 or W-2, W-3
313	Godlowski	I. Physiopathology of Endocrine System II. Enzymatic Mechanism of Allergy	2 PERIODS T-2, T-3
314	Godlowski	Endocrinopathies	2 PERIODS Th-2, Th-3
315	Guilford & Wright	Permeatal Otologic Surgery	2 PERIODS W-1, W-2
316 or 317	Hansel	Allergy & Medical Otolaryngology	2 PERIODS W-1, W-2 or Th-1, Th-2
318	Harbert	Clinical Audiology	2 PERIODS T-1, T-2
319 or 320	Hardy & Pauls	Clinical Audiology for Young Children	2 PERIODS T-2, T-3 or W-2, W-3
321	Hilding	Physiology of Hearing	2 PERIODS Th-1, Th-2
322	House, H. & House, W.	Surgery for Chronic Ear Disease & the Concept of Tympanoplasty	2 PERIODS W-1, W-2
323	Kazanjian et al.	Traumatic Injuries of Face	2 PERIODS W-2, W-3
324	Kelemen	Stapes Mobilization & Tympanoplasty	2 PERIODS Th-2, Th-3
325 or 326	Lathrop et al.	Otological Problems	2 PERIODS T-1, T-2 or W-1, W-2
327	Lawrence	Acoustic Principles in Middle Ear Surgery	2 PERIODS W-2, W-3
328	Lindsay	Deafness & Dizziness of Vascular Origin	2 PERIODS T-2, T-3
329	Semenov	Ear, Nose & Throat Therapeutics	2 PERIODS W-1, W-2
330 or 331	Simonton et al.	What the Otologist Should Know About Hearing Aids	2 PERIODS T-2, T-3 or W-2, W-3
332	Walsh	What Can Be Done for Deafness	2 PERIODS Th-2, Th-3

SCHEDULE OF INDIVIDUAL COURSES — OTOLARYNGOLOGY — Tuesday

Key T-1 — 9:00 a.m. to 10:00 a.m.

Course No.	SPEAKER	SUBJECT
403	Andrews	Bronchial Function Testing
411	Bordley	Deafness in the Infant & Preschool Child
413	Brewer & Briess	Laryngeal Anatomy & Phonatory Laryngeal Physiology
416	Clerf	Causes of Hoarseness: Treatment
419	Compere	Radiologic Examination of Mastoid, Middle Ear, & Eustachian Tube
424	Devine	Total Laryngectomy
427	Farrior, J. B.	Stapes Operability in 3-D
431	Fishbein	Medical Writing
435	Furstenberg	Management of Nasal Obstruction
438	Goodhill	Stapes Mobilization: Peribasal Monitored Technique
442	Guilford & Wright	Controlled Healing of Mastoid & Fenestration Cavities
448	Harrill	Cancer of the Maxillary Sinus
454	Jesberg	Benign Conditions of the Throat
461	Kos	Stapes Mobilization
468	Loch	Septum Deviations
470	Lore	Vascular Surgery in the Head & Neck
504	Seltzer	Plastic Surgery of the Nose: New Instruments
508	Sisson	Head & Neck Surgery
520	Wallner	An Operation for Closure of Oroantral Fistula

Key T-2 — 10:15 a.m. to 11:15 a.m.

Course No.	SPEAKER	SUBJECT
428	Farrior, J. B.	Tympanoplasty in 3-D
434	Fowler	Facial Paralysis & Tics
439	Gorney	Esophageal Strictures
455	Jordan, L.	Recent Nasal Fractures: Management
460	Kirchner	Facial Bone Injuries
466	Lewis	Reactions to Drugs & Antibiotics
475	McNally	Labyrinthine Tests
482	Pastore	The Throat: Nonsurgical Problems
490	Reed	Neck Dissection
494	Roberts	Neurovascular Dysfunctions of the Eighth Nerve
506	Shambaugh	Surgical Applications of the Mechanics of the Middle Ear
515	Taylor	Esophageal Disease: Diagnosis & Management

Key T-3 — 11:30 a.m. to 12:30 p.m.

Course No.	SPEAKER	SUBJECT
410	Bolotow	Rhinoplasty: Recent Advances
417	Cocke	Salivary Gland Tumors: Management
421	Coyle	Radiation Therapy of Head & Neck
440	Grandon	Plastic Surgical Procedures for the Otolaryngologist
443	Hale	Fractures of the Jaws: Diagnosis & Treatment
447	Harkins	Routine Office Management of Allergic Patients
456	Jordan, R.	Meniere's Disease: Diagnosis & Treatment
463	Lemon	Serous Otitis Media in Children
465	Lepper	Antibiotics in Otolaryngology
476	Meltzer	Mastoid Cavity
478	Myers	Stapes Mobilization
481	O'Neil	Aerosol Therapy
483	Pearlman	Certain Aspects of Aging in Ear, Nose & Throat Regions
492	Rinkel	The Nature of Food Allergy
501	Schuknecht	Oval Window Prostheses in the Management of Otosclerosis
521	Weaver	Tumors of the Face: Management

SCHEDULE OF INDIVIDUAL COURSES — OTOLARYNGOLOGY — Wednesday

Key W-1 — 9:00 a.m. to 10:00 a.m.

Course No.	SPEAKER	SUBJECT
401	Alfaro	Fullness in the Ear: Differential Diagnosis
405	Armstrong	Use of Vinyl Tubing in Treatment of Chronic Secretory Otitis Media
412	Bradley	Practical Office Speech Audiometry
422	Crispell	Otolaryngologic Allergy in Children
429	Farrior, R.	A Method of Otoplasty
437	Goodale	Rationale of Surgery of Frontal Sinus
452	Jackson	Peroral Endoscopy & Endoscopic Photography
461	Kos	Stapes Mobilization
469	Long	Use of Antibacterial Substances
472	Magielski	Trauma of the Larynx & Trachea
474	McLaurin	The Child Without Speech: Differential Diagnosis & Treatment
477	Myers	Surgery of Chronic Otitis Media & Mastoiditis
489	Rawlins	Corticosteroids in Otolaryngology
491	Reger	Practical Office Audiometry
503	Sellers	Dizziness: Its Cure or Relief
514	Tabb	Surgical Approaches to Nasopharynx
522	Woodman	Glottic Obstruction

Key W-2 — 10:15 a.m. to 11:15 a.m.

Course No.	SPEAKER	SUBJECT
420	Corgill	Radical Hypopharyngeal Surgery Combined with Neck Dissection
433	Folbre	Discarding Old Ideas in Otolaryngology
445	Hallberg	Sudden Deafness
457	Juers	Perforations & Hearing Conservation Surgery
459	Kinney	Hearing in Children: Newer Concepts
461-A	Lake	Secretory Otitis Media in Children
467	Littwin	Rhinophyma
473	Maxwell	Diseases of Salivary Glands: Differential Diagnosis
484	Perlman	Fluid in Middle Ear: Etiology & Management
486	Pressman & Berman	Cysts of the Neck
495	Ronis	Chronic Sinusitis: Diagnosis & Treatment
505	Senturia & Adler	Middle Ear Effusions

Key W-3 — 11:30 a.m. to 12:30 p.m.

Course No.	SPEAKER	SUBJECT
402	Altmann & Waltner	Treatment of Meniere's Disease with Ultrasonic Waves
406	Arnold	Radiographic Diagnosis of Temporal Bone Lesions
409-A	Bell	Correction of Outstanding Ears
414	Brodnitz	Rehabilitation of Voice & Speech
415	Canfield	Speech Audiometry
418	Cody	Eustachian Tube
432	Fitz-Hugh & McLean	Salivary Glands: Common Disorders
441	Guggenheim	Technique & Pitfalls of Adenoidectomy
444	Hale	Cysts of the Jaws & Mouth: Diagnosis & Treatment
458	Kemler	Diagnostic & Therapeutic Aids in ENT Practice
462	Lederer	Diagnostic & Therapeutic Pitfalls in ENT Practice
464	Lempert	Temporal Bone Surgery: Pitfalls & Problems
471	Lynch	Suspension Laryngoscopy & Intralaryngeal Surgery
479	Ogura & Som	Conservation of Laryngeal Function in Cancer of Larynx
499	Scheldrup	Surgical Anatomy of the Neck
507	Shea	Fenestration of the Oval Window
511	Sooy	Surgical Anatomy of Stapes Mobilization
524	Wynn	Plastic Repair of Facial Injury: Basic Principles

SCHEDULE OF INDIVIDUAL COURSES — OTOLARYNGOLOGY — Thursday

Key Th-1 — 9:00 a.m. to 10:00 a.m.

Course No.	SPEAKER	SUBJECT
401	Alfaro	Fullness in the Ear: Differential Diagnosis
404	Anthony & Fisher	Hemorrhage of Nose & Throat: Medical & Surgical Treatment
407	Atkins	Diseases of Trachea: Diagnosis & Management
408	Baron	Interesting Problems in Otolaryngology: Management
423	Daly & Cardona	Corrosive Esophagitis: Recent Advances in Management
438	Goodhill	Stapes Mobilization: Peribasal Monitored Technique
442	Guilford & Wright	Controlled Healing of Mastoid & Fenestration Cavities
449	Henner	Functional Surgery of Middle Ear
450	Hough	Anatomic Variations in Middle Ear
452	Jackson	Peroral Endoscopy & Endoscopic Photography
461-A	Lake	Secretory Otitis Media in Children
468	Loch	Septum Deviations
496	Rosen	Surgical Anatomy of the Vestibule with Reference to the Stapedial Footplate
497	Ryan	Headache: Differential Diagnosis & Treatment
498	Saunders	Oral Lesions: Treatment & Clinical-Pathologic Correlation
500	Schuknecht	Technique for Removal & Preparation of Temporal Bones

Key Th-2 — 10:15 a.m. to 11:15 a.m.

Course No.	SPEAKER	SUBJECT
409	Becker	Plastic Surgery of Protruding Ears
426	Dickinson	Saddle Nose
436	Glorig	The Otolaryngologist & & Hearing Aid Selection
453	Jerger	Auditory Tests in Diagnosis
487	Proctor	Tympanoplasty
502	Sellers	Office Practice of Otolaryngology
509	Skolnik	Head & Neck Surgery: Errors & Safeguards
512	Spector	Dizziness: Differential Diagnosis
514-A	Tato	Speech Audiometry: New Developments
516	Tremble	Practical Therapeutics in Office Practice
518	Van Alyea	Sinusitis: Modern Trends in Management

Key Th-3 — 11:30 a.m. to 12:30 p.m.

Course No.	SPEAKER	SUBJECT
409-A	Bell	Correction of Outstanding Ears
425	DeWeese	The Problem of the Dizzy Patient
430	Farrior, R.	Cancer of the Head & Neck
446	Hallberg	Severe Nosebleed
451	House, H.	Stapes Mobilization Procedure
462	Lederer	Diagnostic & Therapeutic Pitfalls in ENT Practice
480	Ogura	Radical Neck Dissection & Laryngeal Carcinoma
488	Rabbett	Submucous Resection of the Nasal Septum
493	Rinkel	Specific Diagnosis in Allergy: A. Foods, B. Inhalants
510	Soboroff	Intranasal Tumors: Diagnosis & Surgical Management
513	Sullivan & Smith, J. B.	Facial Palsies & Their Treatment
517	Turnbull	Carcinoma of Paranasal Sinuses & Nasal Cavities
519	Wallner	Diseases of Larynx: Kodachrome Clinic
523	Woodruff	Epistaxis & Its Management

SECTION ON INSTRUCTION

ADVANCE ORDER SHEET

All courses cost $2.00 for each period (one hour). Follow instructions explicitly and check for errors in listing before mailing.

Orders will not be accepted for presale after October 1. To ensure acceptance they should be mailed before September 29 to

WILLIAM L. BENEDICT, M.D., *Executive Secretary-Treasurer*
American Academy of Ophthalmology and Otolaryngology
15 Second Street S.W., Rochester, Minnesota

Academy Candidates and Guests May Purchase Tickets ONLY at Instruction Desk in Registration Foyer

(Over)

ADVANCE ORDER SHEET

ORDERS FILLED ONLY IF CURRENT DUES ARE PAID

NO REFUNDS WILL BE MADE AFTER OCTOBER 10

(Type or Print) Last Name First Name Middle Initial

Office Address

City Zone State

Days to be Present

- ☐ Monday
- ☐ Tuesday
- ☐ Wednesday
- ☐ Thursday

Total Amount Enclosed $_____

SELECTION OF COURSES ON REVERSE SIDE OF THIS BLANK

RECAPITULATION OF GENERAL INSTRUCTIONS

1. Monday, Tuesday, Wednesday, and Thursday are represented by the letters M, T, W, Th. The first period in the morning is represented by figure 1, second period by figure 2 and third period by figure 3. The first period in the afternoon is represented by figure 4, second period by figure 5, and third period by figure 6. All courses in otolaryngology and maxillofacial surgery are presented in the mornings. All courses in ophthalmology are presented in the afternoons.

2. Reservation of instruction tickets in advance of the meeting will be made ONLY for MEMBERS whose 1959 dues have been paid. ACADEMY CANDIDATES AND GUESTS MAY MAKE SELECTION OF COURSES *ONLY* AT THE GENERAL REGISTRATION DESK IN CHICAGO.

3. Make check payable to W. L. Benedict, M.D.

4. Mail order promptly to ensure reservation of first choices. If necessary, an attempt will be made to rearrange schedule to include "first choices."

(Over)

SELECTION OF COURSES

PERIOD		FIRST CHOICE		SECOND CHOICE		THIRD CHOICE	
		Course No.	Lecturer	Course No.	Lecturer	Course No.	Lecturer
MON.	4						
P.M.	5						
	6						
TUES.	1						
A.M.	2						
	3						
P.M.	4						
	5						
	6						
WED.	1						
A.M.	2						
	3						
P.M.	4						
	5						
	6						
THURS.	1						
A.M.	2						
	3						
P.M.	4						
	5						
	6						

News - - - Notes

POSTGRADUATE COURSES

Colby College

The Institute on Occupational Hearing Loss will be presented August 17 through 22. This course is designed to train otologists and others to initiate and conduct hearing conservation programs in noisy industries. Course enrollment is limited. The fee of $200 includes tuition, board and room. Requests for further information should be made to William A. Macomber, Colby College, Waterville, Maine.

Temple University

The Department of Laryngology and Bronchoesophagology, Temple University Medical Center will sponsor two postgraduate courses under the direction of Drs. Chevalier L. Jackson and Charles M. Norris.

Laryngology and Laryngeal Surgery will be given September 21 to October 2. Bronchoesophagology will be given November 9 to 20. The tuition fee for each course is $250. Application and further information may be obtained by writing Jackson-Research, Lab 604, Temple University Medical School, 3400 N. Broad St., Philadelphia 40.

FALL MEETINGS

The South Carolina Society of Ophthalmology and Otolaryngology and the North Carolina Eye, Ear, Nose, and Throat Society will meet jointly September 13 through 16 in Charleston, S. C., with headquarters at the Francis Marion Hotel. Drs. Carroll R. Mullen of Philadelphia and G. Bonaccolto and Willis S. Knighton of New York will lecture in ophthalmology. Drs. John Bordley of Baltimore, Frederick R. Guilford of Houston and Paul Holinger of Chicago will lecture in otolaryngology.

The American Otorhinologic Society for Plastic Surgery, Inc., will meet October 11 at the Conrad Hilton Hotel in Chicago. Dr. B. Sotoodeh will present a paper on "Surgery of Laryngeal Webs" and Dr. G. Obregon will present a paper on "Thyro-Glossal and Branchial Cysts." Panels on "Neck Surgery" and "Miscellaneous Topics on Plastic Surgery of Head" including "A Method of Rhinoplasty" will be conducted.

CLINIC ESTABLISHED

Dr. Albert E. Sloane of Boston established a "Low Vision Clinic" in the eye department of the Mayer de Rothschild, Hadassah University Hospital, in Jerusalem in September 1958.

EUROPEAN OPHTHALMOLOGY CONGRESS

The First Congress of the European Society of Ophthalmology will be held at Athens, April 18 to 22, 1960.

With 500 subscriptions, the ship Agamemnon could be chartered to cross the Mediterranean Sea to Greece. The port of embarkation probably would be Genoa, three days crossing, four days at Pireus during the Congress, and thereafter the boat could make excursions to the islands of the Aegean Sea. The total price would be about 100,000 Fr. (about $200); the ship would be the hotel during the stops.

For further information write Prof. Agrege Desvignes, Service d'Ophtalmologie de l'Hopital Tenon, 4, rue de la Chine, Paris (XX).

AUDITORY-VISUAL TESTING

The University of Illinois Hearing Center announces development of a multiple-choice word list suitable for testing auditory, visual, and combined auditory-visual intelligibility. Their personnel have found the test to give rapid and reliable estimates of listening errors.

EDWARD LORENZO HOLMES MEMORIAL AWARD

Dr. Goodwin M. Breinin, chairman of the Department of Ophthalmology and Daniel B. Kirby Professor of Research Ophthalmology, New York University Bellevue Medical Center, has been named recipient of the 1959 Edward Lorenzo Holmes Memorial Award of The Institute of Medicine of Chicago. Dr. Breinin received his medical degree from Emory University School of Medicine in 1943 and had his training in ophthalmology at Bellevue Hospital in New York.

The Edward Lorenzo Holmes Memorial Award was established by the late Dr. Rudolph Wieser Holmes as a me-

morial to his father, a pioneer ophthalmologist in Chicago. In establishing the award, Dr. Holmes directed that it be presented in recognition of distinguished contributions in medical science, and that preference be given to contributions in ophthalmology.

This award has been made to Dr. Breinin in recognition of his important contributions in the field of ophthalmology, particularly his investigations concerning the neuromuscular control of the ocular muscles and the development of ocular electromyography in advancing knowledge of strabismus. In addition, Dr. Breinin pioneered in the study of drugs affecting the secretory epithelium of the ciliary body and their application in the therapy of glaucoma.

POSITIONS AVAILABLE

POSITIONS AVAILABLE

A Board-eligible OTOLARYNGOLOGIST is wanted to take over an excellent, unopposed practice in association with a Board-certified ophthalmologist. Records and equipment are available without investment. For further information write Theodore M. Gill, M.D., 310 Medical Arts Bldg., Albert Lea, Minn.

A Board-eligible or Board-certified OTOLARYNGOLOGIST is urgently needed to head department in 20 man specialty group. No initial investment; early partnership. Will meet competitive salary requirements for qualified man. For further information write Maynard A. Wood, M.D., P.O. Box 873, Lincoln, Neb.

An OPHTHALMOLOGIST is wanted to joint a 12 man, modern clinic encompassing the majority of the medical specialties and serving a population of approximately 50,000. For further information write H. M. Blair, M.D., Administrative Director, Sault Polyclinic, Sault Ste. Marie, Mich.

A Board-eligible OPHTHALMOLOGIST is wanted to take over all surgery and assist with routine office work. He would be associated with a Board-certified ophthalmologist, in a 5 man clinic, who has a large practice in a growing college town. This excellent opportunity offers a $12,000 guarantee and generous bonus. For further information write Calvin M. Kershner, M.D., Watson Clinic, Brookings, S. D.

Listings of positions available should be sent to W. L. Benedict, M.D., 15 Second Street S. W., Rochester, Minn., by the fifth of the month preceding publication. They should include (1) type of physician wanted (ophthalmologist or otolaryngologist: diplomate, resident, etc.) (2) type of position to be filled; and (3) whom to write for further information. Unless otherwise requested, listings will be published only once.

The Academy will handle no further correspondence beyond the listing and assume no responsibility. Neither does it endorse nor guarantee any of the published listings.

DIRECTORY OF OPHTHALMIC AND OTOLARYNGIC SOCIETIES

Secretaries of Societies are requested to furnish the information necessary to make this list complete and keep it up to date. Send to TRANSACTIONS, *American Academy of Ophthalmology and Otolaryngology,* 15 *Second St. S.W., Rochester, Minn.*

EXAMINING AND CERTIFYING BODIES

AMERICAN BOARD OF OPHTHALMOLOGY

CHAIRMAN: Dr. Gordon M. Bruce
SECRETARY-TREASURER: Dr. Merrill J. King, Ivie Rd., Box 236, Cape Cottage Branch, Portland 9, Maine
ORAL EXAMINATION: June 2-6, 1959, Philadelphia; October 6-10, 1959, St. Louis
FINAL DATE FOR APPLICATION TO TAKE 1960 WRITTEN EXAMINATION: July 1, 1959
WRITTEN EXAMINATION: January 1960; various cities

AMERICAN BOARD OF OTOLARYNGOLOGY

PRESIDENT: Dr. Gordon D. Hoople
SECRETARY-TREASURER: Dr. Dean M. Lierle, University Hospitals, Iowa City
FINAL DATE FOR APPLICATION: April 1, 1959
ORAL EXAMINATION: October 5-9, 1959; Palmer House, Chicago

AMERICAN BOARD OF PLASTIC SURGERY

CHAIRMAN: Dr. James T. Mills
SECRETARY-TREASURER: Dr. Bradford Cannon, 330 Dartmouth St., Boston 16
CORRESPONDING SECRETARY: Estelle E. Hillerich, 4647 Pershing Ave., St. Louis 8
FINAL DATE FOR SUBMITTING CASE REPORTS: July 1, 1959
ORAL AND WRITTEN EXAMINATIONS: October 15-17, 1959; Miami, Fla.

BRAZILIAN BOARD OF OPHTHALMOLOGY

CHAIRMEN: Prof. Moacyr E. Alvaro, Prof. Cyro de Rezende
GENERAL SECRETARIES: Dr. Rubens Belfort Mattos, Caixa Postal 4086, Sao Paulo
Dr. Sylvio de Almeida Toledo, Braulio Gomes 25, Sao Paulo

THE ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF CANADA

PRESIDENT: Dr. Robert M. Janes
HONORARY SECRETARY: Dr. James H. Graham, 150 Metcalfe St., Ottawa 4, Ont.

INTERNATIONAL

ASIA-PACIFIC ACADEMY OF OPHTHALMOLOGY

PRESIDENT: Dr. Geminiano deOcampo
SECRETARY-GENERAL: Dr. William John Holmes, 280 Young Hotel Bldg., Honolulu 13, Hawaii
TIME AND PLACE: September 1960; Manila and Hong Kong

EUROPEAN OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Dr. J. P. Bailliart
SECRETARY: Prof. Jules Francois, 15 place de Smet de Naeyer, Ghent, Belgium
TIME AND PLACE: April 1960; Athens, Greece

INTERNATIONAL ASSOCIATION FOR THE PREVENTION OF BLINDNESS

PRESIDENT: Prof. A. Franceschetti
SECRETARY: Dr. J. P. Bailliart, 47 rue de Bellechasse, Paris (7e), France
TIME AND PLACE: 1962; New Delhi

INTERNATIONAL ASSOCIATION OF SECRETARIES OF OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETIES

PRESIDENT: Dr. Roland H. Myers
SECRETARY: Dr. J. David Stratton, Doctors Bldg., Charlotte, N. C.
TIME AND PLACE: October 13, 1959; Palmer House, Chicago

INTERNATIONAL CONGRESS OF BRONCHOESOPHAGOLOGY

PRESIDENT: Dr. Jo Ono
SECRETARY: Dr. Chevalier L. Jackson, 3401 N. Broad St., Philadelphia 40

INTERNATIONAL COLLEGE OF SURGEONS, SECTION OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Dr. John R. Lindsay
SECRETARY: Dr. Louis Savitt, 3403 Lawrence Ave., Chicago 25
TIME AND PLACE: September 13-17, 1959; Palmer House, Chicago

INTERNATIONAL FEDERATION OF OPHTHALMOLOGICAL SOCIETIES

PRESIDENT: Sir Stewart Duke-Elder
SECRETARY: Prof. Dr. Edward Hartmann, 2 ave. Ingres, Paris (16e), France
TIME AND PLACE: 1962; New Delhi

INTERNATIONAL ORGANIZATION AGAINST TRACHOMA

PRESIDENT: Prof. G. B. Bietti
SECRETARY-GENERAL: Dr. Jean Sedan, 94 rue Sylvabelle, Marseille (B. du R.), France

PAN-AMERICAN ASSOCIATION OF OPHTHALMOLOGY
PRESIDENT: Dr. Brittain F. Payne
SECRETARY-TREASURER: For North of Panama: Dr. J. Wesley McKinney, 921 Exchange Bldg., Memphis 3, Tenn.
For South of Panama: Dr. Jorge Balza, Azcuenaga 1059, Buenos Aires, Argentina
TIME AND PLACE: January 31-February 7, 1960; Tamanaco Hotel, Caracas, Venezuela

PAN-AMERICAN ASSOCIATION OF OTO-RHINO-LARYNGOLOGY AND BRONCHO-ESOPHAGOLOGY
PRESIDENT: Dr. Paul H. Holinger
SECRETARY: Dr. Chevalier L. Jackson, 3401 N. Broad St., Philadelphia 40
TIME AND PLACE: March 14-17, 1960; Miami, Fla.

FOREIGN

Argentina

SOCIEDAD ARGENTINA DE OFTALMOLOGIA
PRESIDENT: Dr. Héctor R. Pícoli
SECRETARY: Dr. Alberto Ferrer Arata, Rivadavia 1993, Buenos Aires
TIME AND PLACE: Third Wednesday of each month; Santa Fé 1171, Buenos Aires

Australia

OPHTHALMOLOGICAL SOCIETY OF AUSTRALIA (B.M.A.)
PRESIDENT: Dr. J. L. R. Carter
SECRETARY: Dr. Peter A. Rogers, 235 Macquarie St., Sydney
TIME AND PLACE: November 9-13, 1959; Hobart, Tasmania

Austria

OSTERREICHISCHE OPHTHALMOLOGISCHE GESELLSCHAFT
PRESIDENT: Prof. Dr. A. Pillat
SECRETARY: Dr. Franz Schwab, I. Univ. Augenklinik, Alserstr. 4, Allgemeines Krankenhaus, Vienna 9

OSTERREICHISCHE OTO-LARYNGOLOGISCHE GESELLSCHAFT
PRESIDENT: Prof. Dr. Gustav Hofer
SECRETARY: Doz. Dr. Friedrich Neuberger, I. Univ. Ohrenklinik, Alserstr. 4, Vienna 9
TIME: First Tuesday of October to June

OPHTHALMOLOGISCHE GESELLSCHAFT IN WIEN
PRESIDENT: Prof. Dr. K. Safar
SECRETARY: Dr. H. Schenk, I. Univ. Augenklinik, Alserstr. 4, Vienna
TIME: Second Monday—June, October and December

Belgium

SOCIETE BELGE D'OPHTALMOLOGIE
SECRETARY: Prof. Dr. M. Applemans, 179 boulevard Ruelens, Louvain
TIME AND PLACE: Last Sunday of February, June, and November; Brussels

Brazil

SOCIEDADE BRASILEIRA DE OFTALMOLOGIA
PRESIDENT: Dr. Pedro Moacyr de Aguiar
SECRETARY-GENERAL: Dr. Carlos Heinrique Bessa, Av. Nilo Pecanha 32, Policlínica Geral de Rio de Janeiro

CENTRO DE ESTUDOS DE OFTALMOLOGIA
PRESIDENT: Dr. Rubens Belfort Mattos
SECRETARY: Dr. Renato de Toledo, R. Condessa de S. Joaquim 288, Sao Paulo
TIME AND PLACE: Every Tuesday; R. Condessa de S. Joaquim 288, Sao Paulo

SOCIEDADE DE OFTALMOLOGIA E OTORRINOLARINGOLOGIA DO RIO GRANDE DO SUL
PRESIDENT: Dr. Paulo Fernando Esteves
SECRETARY: Dr. Carlos Buede, Galeria Chaves, Porto Alegre, Rio Grande do Sul
TIME AND PLACE: Third Wednesday of each month; Porto Alegre, Rio Grande do Sul

Canada

CANADIAN MEDICAL ASSOCIATION, SECTION OF OPHTHALMOLOGY
CHAIRMAN: Dr. Edward F. Foy
SECRETARY: Dr. Robert W. Robertson, 305 Northgate Bldg., Edmonton, Alta.

CANADIAN OPHTHALMOLOGICAL SOCIETY
PRESIDENT: Dr. A. Lloyd Morgan
SECRETARY: Dr. R. G. C. Kelly, 90 St. Clair Ave. W., Toronto, Ont.
TIME AND PLACE: October 6-8, 1959; Niagara Falls, Ont.

CANADIAN OTOLARYNGOLOGICAL SOCIETY
PRESIDENT: Dr. G. Arnold Henry
SECRETARY: Dr. Donald M. MacRae, 324 Spring Garden Rd., Halifax, N. S.
TIME AND PLACE: October 9-10, 1959; Sheraton-Brock Hotel, Niagara Falls, Ont.

THE ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF CANADA
PRESIDENT: Dr. John Scott
SECRETARY: Dr. James H. Graham, 150 Metcalfe St., Ottawa 4, Ont.

OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY OF ALBERTA
PRESIDENT: Dr. T. C. Wilson
SECRETARY: Dr. M. R. Marshall, North Pavilion, University Hospital, Edmonton, Alta.
TIME AND PLACE: April 1960; Calgary, Alta.

NOVA SCOTIA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
PRESIDENT: Dr. L. F. Doiron
SECRETARY: Dr. C. F. Keays, 324 Spring Garden Rd., Halifax, N. S.

MONTREAL OPHTHALMOLOGICAL SOCIETY
PRESIDENT: Dr. R. Cloutier
SECRETARY: Dr. Bruce Ramsey, 1414 rue Drummond, Montreal, Que.

TORONTO ACADEMY OF MEDICINE, SECTION OF OPHTHALMOLOGY
PRESIDENT: Dr. J. C. Crawford
SECRETARY: Dr. Lois A. Lloyd, 170 St. George St., Toronto, Ont.

Chile

SOCIEDAD CHILENA DE OFTALMOLOGIA
PRESIDENT: Dr. Cristóbal Espíldora-Luque
SECRETARY: Dr. José Espíldora-Couso, Agustinas 715, Santiago

Colombia

SOCIEDAD COLOMBIANA DE OFTALMOLOGIA Y OTO-RINO-LARINGOLOGIA
PRESIDENT: Dr. Francisco Vernaza
SECRETARY: Dr. Alberto Jimeno, Carrera 6, No. 35-38, Bogotá
TIME AND PLACE: Monthly; Bogotá

Cuba

SOCIEDAD CUBANA DE OFTALMOLOGIA
PRESIDENT: Dr. Rafael Labrador Ruiz
SECRETARY: Dr. Guillermo de la Torre, Calle G No. 506 Vedado, Havana
TIME AND PLACE: First Thursday bimonthly; Malecon 61 Bajos, Havana

Denmark

DET OFTALMOLOGISKE SELSKAB I KØBENHAVN
PRESIDENT: Dr. Børge Lawaetz
SECRETARY: Dr. Jens Edmund, Virginiavej 2, Copenhagen F.

Egypt

OPHTHALMOLOGICAL SOCIETY OF EGYPT
PRESIDENT: Dr. Ibrahim Ahmed Abboud
SECRETARY: Dr. Sabri Kamel, 44 Opera Sq., Cairo

France

SOCIETE FRANCAISE D'OPHTALMOLOGIE
PRESIDENT: Prof. Guy Offret
SECRETARY: Dr. Gabriel Lombard, 27 rue du Faubourg St. Jacques, Paris
TIME AND PLACE: Maison de la Chimie, 28 rue Saint Dominique, Paris

Germany

DEUTSCHE OPHTHALMOLOGISCHE GESELLSCHAFT
PRESIDENT: Prof. Karl vom Hofe
SECRETARY: Prof. Karl vom Hofe, Univ. Augenklinik, Köln
TIME AND PLACE: September 6-10, 1959; Heidelberg

Great Britain

BRITISH ASSOCIATION OF OTOLARYNGOLOGISTS
PRESIDENT: Mr. C. Gill-Carey
SECRETARY: Mr. Myles L. Formby, 47 Lincoln's Inn Fields, London, W. C. 2

FACULTY OF OPHTHALMOLOGISTS
PRESIDENT: Mr. L. H. Savin
SECRETARY: Mr. E. F. King, 47 Lincoln's Inn Fields, London W. C. 2

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM
PRESIDENT: Mr. R. C. Davenport
SECRETARIES: Mr. K. C. Wybar, 47 Lincoln's Inn Fields, London, W. C. 2
Mr. E. C. Glover; 47 Lincoln's Inn Fields, London, W. C. 2

OXFORD OPHTHALMOLOGICAL CONGRESS
MASTER: Mr. O. M. Duthie
SECRETARY-TREASURER: Mr. Ian C. Fraser, 21 Dogpole, Shrewsbury, Shropshire
TIME AND PLACE: July 1-4, 1959; University Laboratory of Physiology, South Parks Rd., Oxford

THE ROYAL SOCIETY OF MEDICINE, SECTION OF OPHTHALMOLOGY
PRESIDENT: Mr. J. R. Wheeler
SECRETARIES: Mr. D. P. Greaves, 56 Wimpole St., London, W. 1
Mr. J. H. Dobree, 116 Wood St., Barnet, Herts.
TIME AND PLACE: Second Thursday, October through December, February through June; 1 Wimpole St., London, W. 1.

THE ROYAL SOCIETY OF MEDICINE, SECTION OF OTOLOGY
PRESIDENT: Mr. Terence Cawthorne
SECRETARIES: Mr. R. Hunt Williams, 36 Shinfield Rd., Reading
Mr. William McKenzie, 76 Harley St., London, W. 1.
TIME AND PLACE: First Friday, November through June, except January and April; 1 Wimpole St., London, W. 1.

THE ROYAL SOCIETY OF MEDICINE, SECTION OF LARYNGOLOGY
PRESIDENT: Mr. R. L. Flett
SECRETARIES: Mr. D. Ranger, 62 Wimpole St., London, W. 1.
Mr. I. B. Thorbun, 160 Whitegate Dr., Blackpool
TIME AND PLACE: First Friday, November through June, except January and April; 1 Wimpole St., London, W. 1.

MIDLAND OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Mr. I. Lloyd Johnstone
SECRETARIES: Mr. M. J. Roper-Hall, Birmingham and Midland Eye Hospital, Church St., Birmingham 3
Mr. W. Martin Walker, Birmingham and Midland Eye Hospital, Church St., Birmingham 3
TIME AND PLACE: June 13, 1959, Victoria Eye Hospital, Hereford; September 25, 1959, Birmingham and Midland Eye Hospital, Church St., Birmingham 3; November 6, 1959, Coventry and Warwickshire Hospital, Stoney Stanton Rd., Coventry

SCOTTISH OPHTHALMOLOGICAL CLUB

PRESIDENT: Dr. J. Pendleton White
SECRETARIES: Dr. C. R. S. Jackson, 1 Melville St., Edinburgh 3
Dr. D. Christison, 21 Eastcote Ave., Glasgow, W. 4
TIME AND PLACE: October 31, 1959, Glasgow Ophthalmic Institution; March 26, 1960, Edinburgh Royal Infirmary

SOUTHERN OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Mr. L. B. Hartley
SECRETARY: Mr. Nigel Cridland, 25 Craneswater Park, Southsea, Portsmouth

India

ALL-INDIA OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Dr. V. C. Rambo
SECRETARY: Dr. Y. K. C. Pandit, Bombay Mutual Bldg., Hornby Rd., Bombay 1

OPHTHALMOLOGICAL SOCIETY OF BENGAL

PRESIDENT: Captain K. L. Sen
SECRETARIES: Dr. S. Bagchi, 95 Chittaranjan Ave., Calcutta 12
Dr. M. Sengupta, 94 Chittaranjan Ave., Calcutta 12
PLACE: The Eye Infirmary Medical College, Calcutta

BOMBAY OPHTHALMOLOGICAL ASSOCIATION

PRESIDENT: Dr. H. D. Patel
SECRETARIES: Dr. B. B. Velankar, 213 Charni Rd., Girgaum, Bombay 4
Dr. V. S. Talwalkar, 213 Charni Rd., Girgaum, Bombay 4
TIME AND PLACE: 7:30 p.m., Third Wednesday of each month; various hospitals

Ireland

IRISH OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Dr. Alan J. Mooney
SECRETARY: Dr. T. F. Roche, 25 Fitzwilliam Pl., Dublin

The Netherlands

NEDERLANDSCH OOGHEELKUNDIG GEZELSCHAP

PRESIDENT: Prof. Dr. M. C. Colenbrander
SECRETARY: Dr. P. G. Binkhorst, Sweelincklaan 20, Bilthoven

New Zealand

THE OPHTHALMOLOGICAL SOCIETY OF NEW ZEALAND

PRESIDENT: Dr. C. Pittar
SECRETARY: Dr. C. C. Ring, 1A Alfred St., Auckland, C. 1
TIME AND PLACE: October 1959, Dunedin

Norway

NORSK OFTALMOLOGISK FORENING

PRESIDENT: Dr. Einar Trumpy
SECRETARY: Dr. Hans Peter Petersen, Rikshospitalets Øyeavdeling, Oslo
TIME AND PLACE: Four times a year; Rikshospitalets Øyeavdeling, Oslo

Pakistan

OPHTHALMOLOGICAL SOCIETY OF PAKISTAN

PRESIDENT: Lt. Gen. W. A. Burki
SECRETARY: Dr. Raja Mumtaz, 70 Nedous Hotel, Lahore

Paraguay

SOCIETY OF OPHTHALMOLOGY OF PARAGUAY

PRESIDENT: Dr. Alfredo Ayala Haedo
SECRETARY: Maria O. de Fresco, Calle Estados Unidos 590, Asunción
TIME AND PLACE: Monthly; Circulo Paraguayo de Medicos, Asunción

Portugal

SOCIEDADE PORTUGUESA DE
OTORRINOLARINGOLOGIA E DE BRONCO-ESOFAGOLOGIA

PRESIDENT: Dr. Alberto Luís de Mendonca
SECRETARIES: Dr. Antonio da Costa Quinta, Av. da Liberdade 65, Lisbon 1
Dr. Albano Coelho, Av. da Liberdade 65, Lisbon 1

Spain

SOCIEDAD OFTALMOLOGICA HISPANO-AMERICANA

PRESIDENT: Prof. Dr. José Pérez-Llorca
SECRETARY: Dr. Carlos Costi García de Tuñón, Montalban 7, Madrid

Sweden

SVENSKA OGONLAKAREFORENINGEN,
SVENSKA LAKARESALLSKAPETS SEKTION FOR OFTALMOLOGI

PRESIDENT: Prof. S. Larsson
SECRETARY: Dr. Ilmari Rendahl, Karolinska sjukhuset, Stockholm 60

Union of South Africa

THE OPHTHALMOLOGICAL SOCIETY OF SOUTH AFRICA

PRESIDENT: Dr. J. Graham Scott
SECRETARY: Dr. E. T. Meyer, 220 Lister Bldg., Jeppe St., Johannesburg

Venezuela

SOCIEDAD VENEZOLANA DE OTORINOLARINGOLOGIA

PRESIDENT: Dr. Alfredo Celis Pérez
SECRETARY: Dr. Jesus Miralles, Centro Médico, Caracas

NATIONAL

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: John H. Dunnington, M.D.
EXECUTIVE SECRETARY-TREASURER: William L. Benedict, M.D., 15 Second St. S.W., Rochester, Minn.
TIME AND PLACE: October 11-16, 1959; Palmer House, Chicago

AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

PRESIDENT: Verling K. Hart, M.D.
TIME AND PLACE: Four times a year; Rikchospitalets Øyeavdeling, Oslo
TIME AND PLACE: March 15-16, 1960; Deauville Hotel, Miami Beach, Fla.

AMERICAN LARYNGOLOGICAL ASSOCIATION

PRESIDENT: W. J. McNally, M.D.
SECRETARY: Lyman Richard, M.D., Massachusetts Institute of Technology, Cambridge 39, Mass.
TIME AND PLACE: March 1960; Deauville Hotel, Miami Beach, Fla.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY, INC.

PRESIDENT: Theodore E. Walsh, M.D.
SECRETARY: C. Stewart Nash, M.D., 708 Medical Arts Bldg., Rochester 7, N. Y.
TIME AND PLACE: March 15-17, 1960; Miami Beach, Fla.

EASTERN SECTION

PRESIDENT: Joseph Goldman, M.D.
SECRETARY: David W. Brewer, 1100 Genesee St., Syracuse, N. Y.

MIDDLE SECTION

PRESIDENT: George E. Shambaugh, Jr., M.D.
SECRETARY: Marlow W. Manion, M.D., 601 Hume Mansur Bldg., Indianapolis 4
TIME AND PLACE: January 1960; Chicago

SOUTHERN SECTION

SECRETARY: James A. Harrill, M.D., Bowman Gray School of Medicine, Winston-Salem, N. C.

WESTERN SECTION

VICE-PRESIDENT: Ben R. Dysart, M.D.
SECRETARY: Francis A. Sooy, M.D., 490 Post St., San Francisco

AMERICAN MEDICAL ASSOCIATION, SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

CHAIRMAN: Victor R. Alfaro, M.D.
SECRETARY: Walter E. Heck, M.D., Stanford Hospital, San Francisco 15
TIME AND PLACE: June 8-12, 1959; Atlantic City, N. J.

AMERICAN MEDICAL ASSOCIATION, SECTION ON OPHTHALMOLOGY

CHAIRMAN: Frank B. Walsh, M.D.
SECRETARY: Harold G. Scheie, M.D., 313 S. 17th St., Philadelphia 3
TIME AND PLACE: June 8-12, 1959; Atlantic City, N. J.

AMERICAN OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Derrick Vail, M.D.
SECRETARY-TREASURER: Maynard C. Wheeler, M.D., 30 W. 59th St., New York 19

AMERICAN OTOLOGICAL SOCIETY, INC.

PRESIDENT: Robert C. Martin, M.D.
SECRETARY-TREASURER: Lawrence R. Boies, M. D., University Hospital, Minneapolis
TIME AND PLACE: March 13-14, 1960; The Deauville, Miami Beach, Fla.

THE AMERICAN OTORHINOLOGIC SOCIETY FOR PLASTIC SURGERY, INC.

PRESIDENT: Raymond S. Rosedale, M.D.
SECRETARY: Joseph G. Gilbert, M.D., 75 Barberry Lane, Roslyn Heights, N. Y.
TIME AND PLACE: October 11, 1959, Conrad Hilton Hotel, Chicago; March 6-13, 1960, Deauville Hotel, Miami Beach, Fla.

AMERICAN SOCIETY OF FACIAL PLASTIC SURGERY

PRESIDENT: Oscar J. Becker, M.D.
SECRETARY: Samuel M. Bloom, M.D., 123 E. 83rd St., New York 28
TIME AND PLACE: October 15-17, 1959; Chicago

AMERICAN SOCIETY OF OPHTHALMOLOGIC AND OTOLARYNGOLOGIC ALLERGY

PRESIDENT: Michael H. Barone, M.D.
SECRETARY: Daniel S. De Stio, M.D., 1006 Highland Bldg., Pittsburgh 6
TIME AND PLACE: October 15-16, 1959; Palmer House, Chicago

ASSOCIATION FOR RESEARCH IN OPHTHALMOLOGY, INC.

CHAIRMAN: Hunter H. Romaine, M.D.
SECRETARY-TREASURER: Lorand V. Johnson, M.D., 10515 Carnegie Ave., Cleveland 6
TIME AND PLACE: June 9-11, 1959; Ambassador Hotel, Atlantic City, N. J.

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS

PRESIDENT: Ira V. Hiscock, Sc.D.
EXCEUTIVE DIRECTOR: Franklin M. Foote, M.D., 1790 Broadway, New York 19

OTOSCLEROSIS STUDY GROUP

PRESIDENT: E. P. Fowler, Jr., M.D.
SECRETARY: Arthur L. Juers, M.D., 1018 Brown Bldg., Louisville, Ky.
TIME AND PLACE: October 10, 1959; Palmer House, Chicago

PUERTO RICAN MEDICAL ASSOCIATION, SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Antonio Rullán, M.D.
SECRETARY: Ophthalmology: Carlos J. Margarida, M.D., Box 9111, Santurce
Otolaryngology: Lorenzo Arsuaga, M.D., Box 9111, Santurce

PUERTO RICAN OPHTHALMOLOGICAL SOCIETY

PRESIDENT: José Fiol Bigas, M.D.
SECRETARY: Guillermo Picó, M.D., 1475 Wilson Ave., Santurce
TIME AND PLACE: Bimonthly; Puerto Rican Medical Association Bldg.

SOCIETY OF MILITARY OPHTHALMOLOGISTS

PRESIDENT: Aubrey Jennings, M.D.
SECRETARY: Capt. Don W. Longfellow, MC, USA, Armed Forces Institute of Pathology, WRAMC, Washington 12, D. C.
TIME AND PLACE: October 13, 1959; Palmer House, Chicago

SOCIETY OF MILITARY OTOLARYNGOLOGISTS

PRESIDENT: Lt. Col. Stanley H. Bear, USAF
SECRETARY-TREASURER: Capt. Maurice Schiff, MC, USN, U. S. Naval Hospital, Oakland, Calif.
TIME AND PLACE: October 13, 1959; Palmer House, Chicago

REGIONAL

ARK-LA-TEX OTO-OPHTHALMIC SOCIETY

PRESIDENT: Max Baldridge, M.D.
SECRETARY: Paul Swearingen, M.D., 940 Margaret Pl., Shreveport, La.
TIME AND PLACE: 7:00 p.m., First Monday of each month, September through June; Confederate Memorial Hospital, Shreveport, La.

HAWAII EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Thomas Frissell, M.D.
SECRETARY: W. T. Minatoya, M.D., 1003 Pensacola St., Honolulu
TIME AND PLACE: Third Thursday of each month; Pacific Club

INTER-MOUNTAIN OTO-OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Charles Ruggeri, Jr., M.D.
SECRETARY: Don B. McAffee, M.D., 508 E. South Temple, Salt Lake City
TIME AND PLACE: 7:30 p.m., Third Monday of each month; University Club, Salt Lake City

LOUISIANA-MISSISSIPPI OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY

PRESIDENT: Fred D. Hollowell, M.D.
SECRETARY: Edley H. Jones, M.D., 1301 Washington St., Vicksburg, Miss.

NEW ENGLAND OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Brendan D. Leahey, M.D.
SECRETARY: Warren D. Haley, M.D., 78 Church St., Winchester, Mass.
TIME AND PLACE: Third Wednesday, November through April; Massachusetts Eye and Ear Infirmary, 243 Charles St., Boston

NEW ENGLAND OTO-LARYNGOLOGICAL SOCIETY

PRESIDENT: John E. Whitworth, M.D.
SECRETARY: Burton E. Lovesey, M.D., 15 W. Central St., Natick, Mass.
PLACE: Massachusetts Eye and Ear Infirmary, 243 Charles St., Boston

PACIFIC COAST OTO-OPHTHALMOLOGICAL SOCIETY

PRESIDENT: E. S. Murphy, M.D.
SECRETARY: Homer E. Smith, M.D., 686 12th Ave., Salt Lake City 3

SIOUX VALLEY ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: W. P. Davey, M.D.
SECRETARY: Verne R. Heimann, M.D., 501 Insurance Exchange Bldg., Sioux City, Iowa

SOUTHERN MEDICAL ASSOCIATION, SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY

CHAIRMAN: G. S. Fitz-Hugh, M.D.
SECRETARY: Mercer G. Lynch, M.D., 3503 Prytania St., New Orleans 15, La.
TIME AND PLACE: November 16-19, 1959; Atlanta, Ga.

WISCONSIN-UPPER MICHIGAN SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: George Nadeau, M.D.
SECRETARY: G. L. McCormick, M.D., 650 S. Central Ave., Marshfield, Wis.

STATE AND LOCAL

Alabama

ALABAMA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Daniel S. Hagood, M.D.
SECRETARY: Karl Benkwith, M.D., 14 Catoma St., Montgomery

THE BIRMINGHAM EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Each member in alphabetical order
SECRETARY: Joseph M. Dixon, M.D., 2156 Highland Ave., Birmingham 5
TIME AND PLACE: Monthly; The Club

Arizona

PHOENIX OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Paul H. Case, M.D.
SECRETARY: Sheldon Zinn, M.D., 15 E. Monroe, Phoenix
TIME AND PLACE: 7:30 p.m., Second Thursday bimonthly, September through May; Westward Ho Hotel

Arkansas

ARKANSAS MEDICAL SOCIETY, EYE, EAR, NOSE AND THROAT SECTION

PRESIDENT: Max McAllister, M.D.
SECRETARY: James L. Smith, M.D., 623 Woodlane, Little Rock
TIME AND PLACE: April 1960; Pine Bluff

California

CALIFORNIA MEDICAL ASSOCIATION, EYE SECTION

PRESIDENT: A. Ray Irvine, Jr., M.D.
SECRETARY: Earle H. McBain, M.D., 1530 Fifth Ave., San Rafael
TIME AND PLACE: February 21-24, 1960; Ambassador Hotel, Los Angeles

ALTA CALIFORNIA OPHTHALMOLOGICAL SOCIETY

PRESIDENT: C. Richard Shannon, M.D.
SECRETARY: Robert E. Hopkins, M.D., 215 Medical-Dental Bldg., Stockton
TIME AND PLACE: Third Thursday of each month, September through June, Sutter Club, Sacramento

EAST BAY OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Arthur F. Steinmetz, M.D.
SECRETARY-TREASURER: E. Homer Brugge, M.D., 426 17th St., Oakland 12

LOS ANGELES OPHTHALMOLOGICAL JOURNAL CLUB

PRESIDENT: Charles J. Aucreman, M.D.
SECRETARY: Arthur S. Gray, M.D., 301 N. Prairie Ave., Inglewood
TIME AND PLACE: 8:00 p.m., Second Monday of each month, September through June; Los Angeles County Medical Association Bldg., 1925 Wilshire Blvd., Los Angeles

LOS ANGELES SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Max Edward Pohlman, M.D.
SECRETARY: Wendell C. Irvine, M.D., 2010 Wilshire Blvd., Los Angeles 57
TIME AND PLACE: Ophthalmology, 6:00 p.m., First Thursday of each month;
Otolaryngology, 6:00 p.m., Fourth Monday of each month;
Los Angeles County Medical Association Bldg., 1925 Wilshire Blvd., Los Angeles

PENINSULA EYE SOCIETY

PRESIDENT: William J. Hornyak, M.D.
SECRETARY: Loren W. Denny, M.D., 140 E. Poplar Ave., San Mateo
TIME: Third Thursday evening of each month

SAN DIEGO OPHTHALMOLOGICAL SOCIETY

PRESIDENT: John Power, M.D.
SECRETARY: William A. Yancey, M.D., 233 A St., San Diego
TIME AND PLACE: 6:00 p.m., Second Monday of each month; University Club, San Diego

SAN FRANCISCO MEDICAL SOCIETY, EYE SECTION

CHAIRMAN: Bayard H. Colyear, Jr., M.D.; 490 Post St., San Francisco
TIME AND PLACE: Quarterly; San Francisco County Medical Society Bldg.

SAN FRANCISCO OPHTHALMOLOGICAL ROUND TABLE

PRESIDENT: Jerome W. Bettman, M.D.
SECRETARY: Albert J. Brinckerhoff, M.D., 490 Post St., San Francisco 2

SANTA BARBARA OPHTHALMOLOGICAL SOCIETY

PRESIDENT: A. George Hanson, M.D.
SECRETARY: John M. Richards, M.D., 1921 State St., Santa Barbara
TIME AND PLACE: 7:30 p.m., Third Thursday evening of each month, St. Francis Hospital Library

TRI-COUNTY SOCIETY OF OPHTHALMOLOGY

PRESIDENT: Albert Biegel, M.D.
SECRETARY: Gordon Witter, M.D., 2 W. Fern Ave., Redlands

Colorado

COLORADO OPHTHALMOLOGICAL SOCIETY

PRESIDENT: James C. Strong, Jr., M.D.
SECRETARY: Max Kaplan, M.D., 216 Republic Bldg., Denver 2
TIME AND PLACE: Third Saturday of each month, September through May; University of Colorado Medical Center, 4200 E. Ninth Ave., Denver

COLORADO OTOLARYNGOLOGICAL SOCIETY

PRESIDENT: James Rigg, M.D.
SECRETARY: Kemp Cooper, M.D., 2627 E, Denver
TIME AND PLACE: First Saturday of each month; Denver County Medical Library

Connecticut

CONNECTICUT STATE MEDICAL SOCIETY, EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Clement C. Clarke, M.D.
SECRETARY: John P. Simses, M.D., 144 Golden Hill St., Bridgeport

District of Columbia

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, SECTION ON OPHTHALMOLOGY

PRESIDENT: Marshall M. Parks, M.D.
SECRETARY-TREASURER: Elbert W. Dodd, Jr., M.D., 1726 M St. N.W. No. 201

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, SECTION ON OTOLARYNGOLOGY

PRESIDENT: Edward O'Brien, M.D.
SECRETARY: Max Fischer, M.D., 915 19th St. N.W., No. 909, Washington 6, D. C.
TIME AND PLACE: 6:30 p.m., Second Tuesday of November, January, March and May; Army Navy Club

Florida

FLORIDA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Edson J. Andrews, M.D.
SECRETARY: Joseph Taylor, Jr., M.D., One Davis Bldg., Tampa

GREATER MIAMI EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Mariano C. Caballero, M.D.
SECRETARY-TREASURER: H. Carlton Howard, M.D., Suite 219, Plaza Bldg., 245 S. E. First St., Miami 32
TIME AND PLACE: Quarterly; McAllister Hotel

Georgia

GEORGIA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: John Kirk Train, M.D.
SECRETARY: Walter P. Rhyne, M.D., P. O. Box 206, Albany
TIME AND PLACE: March 24-26, 1960; General Oglethorpe Hotel, Savannah

ATLANTA EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Taylor Burgess, M.D.
SECRETARY: J. Jack Stokes, M.D., 512 Medical Arts Bldg., Atlanta
TIME AND PLACE: 7:30 p.m., Fourth Monday of each month; Fulton County Academy of Medicine

Illinois

CENTRAL ILLINOIS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: William Hubble, M.D.
SECRETARY: Clarence A. Fleischli, M.D., 520 E. Allen St., Springfield

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

PRESIDENT: George H. Woodruff, M.D.
SECRETARY: Robert Lewy, M.D., 25 E. Washington St., Chicago 2
TIME AND PLACE: First Monday of each month, October through May; Furniture Club of America, 666 N. Lake Shore Dr., Chicago

CHICAGO OPHTHALMOLOGICAL SOCIETY

PRESIDENT: J. Vernal Cassady, M.D.
SECRETARY-TREASURER: Joseph S. Haas, M.D., 111 N. Wabash, Chicago 2
TIME AND PLACE: Third Monday of each month; Illini Union, 715 S. Wood St., Chicago

Indiana

INDIANA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
PRESIDENT: Herschel Smith, M.D.
SECRETARY: J. Lawrence Sims, M.D., 3400 N. Meridian St., Indianapolis

INDIANAPOLIS OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY
PRESIDENT: John R. Swan, M.D.
SECRETARY: M. Richard Harding, M.D., 23 E. Ohio St., No. 308
TIME AND PLACE: 6:30 p.m., Second Thursday of each month, November through May; Indianapolis Athletic Club

Iowa

IOWA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
PRESIDENT: Claire Kos, M.D.
SECRETARY: Arthur C. Wise, M.D., 212 Savings and Loan Bldg., Iowa City

DES MOINES ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
PRESIDENT: C. C. Jones, M.D.
SECRETARY: C. C. Walker, M.D., 304 Bankers Trust Bldg., Des Moines
TIME AND PLACE: Fourth Monday of each month; Des Moines Club

Kansas

KANSAS STATE MEDICAL SOCIETY,
SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY
PRESIDENT: Victor R. Moorman, M.D.
SECRETARY: James E. Bresette, M.D., 659 New Brotherhood Bldg., Kansas City

Kentucky

LOUISVILLE EYE AND EAR SOCIETY
PRESIDENT: Thomas E. Booth, M.D.
SECRETARY: Roderick MacDonald, Jr., M.D., Louisville General Hospital, Louisville
TIME AND PLACE: Bimonthly; Provincial House

Louisiana

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY
PRESIDENT: J. O. Weilbaecher, Jr., M.D.
SECRETARY: Maurice E. St. Martin, M.D., Room 103, 1430 Tulane Ave., New Orleans

Maryland

BALTIMORE CITY MEDICAL SOCIETY, OPHTHALMOLOGICAL SECTION
PRESIDENT: I. E. Brumback, Jr., M.D.
SECRETARY: Roy O. Scholz, M.D., 11 E. Chase St., Baltimore 2
TIME AND PLACE: Three times yearly; Medical and Chirurgical Faculty Building, 1211 Cathedral St., Baltimore 1

BALTIMORE EAR, NOSE AND THROAT SOCIETY
PRESIDENT: Jerome Snyder, M.D.
SECRETARY: Arthur Ward, M.D., 11 E. Chase St., Baltimore

Massachusetts

MASSACHUSETTS MEDICAL SOCIETY,
SECTION OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
CHAIRMAN: Trygve Gundersen, M.D.
SECRETARY: Robert E. Klotz, M.D., 243 Charles St., Boston 14

BOSTON CITY HOSPITAL AURAL AND OPHTHALMIC ALUMNI SOCIETY
PRESIDENT: Arthur J. Gorney, M.D.
SECRETARY: Anthony Alba, M.D., 199 Bay State Rd., Boston

Michigan

MICHIGAN STATE MEDICAL SOCIETY, SECTION OF OPHTHALMOLOGY
CHAIRMAN: Fleming A. Barbour, M.D.
SECRETARY: Paul L. Cusick, M.D., 28 W. Adams Ave., Detroit 26
TIME AND PLACE: September 1959; Grand Rapids

MICHIGAN STATE MEDICAL SOCIETY, SECTION OF OTOLARYNGOLOGY
PRESIDENT: Harold F. Schuknecht, M.D.
SECRETARY: John E. Magielski, M.D., University Hospital, University of Michigan, Ann Arbor
TIME: September 1959

MICHIGAN TRIOLOGICAL SOCIETY
PRESIDENT: R. T. Blackhurst, M.D.
SECRETARY: Roland L. Phillips, M.D., 403 Matthews Bldg., Owosso
TIME AND PLACE: Five times yearly; Lansing or Marshall

DETROIT OPHTHALMOLOGICAL CLUB
PRESIDENT: Members in rotation
SECRETARY: John W. Henderson, M.D., Outpatient Bldg., University Hospital, Ann Arbor
TIME AND PLACE: Second Tuesday of November, December, February, and March; Wayne County Medical Society Bldg., Detroit

DETROIT OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Wesley Reid, M.D.
SECRETARY: Lester E. McCullough, M.D., 521 David Whitney Bldg., Detroit 26
TIME AND PLACE: Fourth Thursday of each month, November through April; Wayne County Medical Society Bldg.

DETROIT OTOLARYNGOLOGICAL SOCIETY

PRESIDENT: Donald S. Bolstad, M.D.
SECRETARY: Ned I. Chalat, M.D., 212 David Whitney Bldg., Detroit 26
TIME AND PLACE: 7:00 p.m., Third Wednesday of each month; Wayne County Medical Society Bldg., Detroit

SAGINAW VALLEY ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Fred Cady, Jr., M.D.
SECRETARY: Arno W. Weiss, M.D., 3521 State St., Saginaw
TIME AND PLACE: Alternating first and fourth Tuesday of each month; High-Life Inn, Saginaw

Minnesota

MINNESOTA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Walter Lees Hoffman, M.D.
SECRETARY: John P. Wendland, M.D., 203 Doctors Bldg., Minneapolis 2
TIME AND PLACE: Second Friday of each month; Minneapolis Club, Minneapolis and Minnesota Club, St. Paul

Missouri

KANSAS CITY SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Byron J. Ashley, M.D.
SECRETARY: James T. Robison, Jr., M.D., 4620 J. C. Nichols Pkwy., Kansas City 12
TIME AND PLACE: Third Thursday of each month, September to May; University of Kansas Medical Center

EAR, NOSE AND THROAT CLUB OF ST. LOUIS

PRESIDENT: Edward H. Lyman, M.D.
SECRETARY: Daniel D. Klaff, M.D., 3720 Washington Blvd., St. Louis 8
TIME AND PLACE: Third Wednesday of January, March, May and November; University Club

ST. LOUIS OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Edmund B. Alvis, M.D.
SECRETARY: Lawrence T. Post, Jr., M.D., 100 N. Euclid, St. Louis 8

Montana

MONTANA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Hanley Burton, M.D.
SECRETARY: R. M. Morgan, M.D., 905 Helena Ave., Helena
TIME AND PLACE: September 16, 1959, Butte; February 22, 1960, Bozeman

Nebraska

NEBRASKA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Robert Lovgren, M.D.
SECRETARY: George Alliband, M.D., 1020 Medical Arts Bldg., Omaha
TIME: May and September

OMAHA EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Frank Lipp, M.D.
SECRETARY: Richard C. Greenberg, M.D., 1421 Dodge St., Omaha
TIME AND PLACE: Third Wednesday of January, March, May, September, and November; Omaha Club, 20th and Douglas, Omaha

New Jersey

ACADEMY OF MEDICINE OF NEW JERSEY, EYE, EAR, NOSE AND THROAT SECTION

CHAIRMAN: Richard Stern, M.D.
SECRETARY: Myron Shapiro, M.D., 286 N. Arlington Ave., East Orange
TIME AND PLACE: December 1959; Newark Eye and Ear Infirmary, Newark

MEDICAL SOCIETY OF NEW JERSEY, SECTION ON OPHTHALMOLOGY

PRESIDENT: Charles E. Jaeckle, M.D.
SECRETARY: Jay E. Mishler, M.D., 1616 Pacific Ave., Atlantic City

NEW JERSEY ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Wallace Hurff, M.D.
SECRETARY: John Scillieri, M.D., 660 Broadway, Paterson

NEW JERSEY OPHTHALMOLOGICAL SOCIETY

PRESIDENT: T. Atwood, M.D.
SECRETARY: Alfonse A. Cinotti, M.D., 3285 Hudson Blvd., Jersey City

NEW JERSEY SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Edgar P. Cardwell, M.D.
SECRETARY: Albert F. Moriconi, M.D., 438 Hamilton Ave., Trenton 9

HUDSON COUNTY EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT AND SECRETARY: Nathaniel J. Shapiro, M.D., 1201 Palisade Ave., Union City
TIME AND PLACE: Second Monday of each month; Pete and Dominic Restaurant, Jersey City

New Mexico

NEW MEXICO OPHTHALMOLOGICAL SOCIETY

PRESIDENT: A. W. Egenhafer, M.D.
SECRETARY: J. A. Dillahunt, M.D., 106 Girard Blvd. S.E., Albuquerque

New York

MEDICAL SOCIETY OF THE STATE OF NEW YORK, OTOLARYNGOLOGY SECTION

CHAIRMAN: Samuel F. Kelley, M.D.
SECRETARY: Daniel C. Baker, Jr., M.D., 903 Park Ave., New York 21

NEW YORK ACADEMY OF MEDICINE, SECTION ON OPHTHALMOLOGY

PRESIDENT: Charles A. Perera, M.D.
SECRETARY: Frank H. Constantine, M.D., 30 W. 59th St., New York

NEW YORK ACADEMY OF MEDICINE, SECTION ON OTOLARYNGOLOGY

PRESIDENT: Joseph L. Goldman, M.D.
SECRETARY: Edmund P. Fowler, Jr., M.D., 180 Ft. Washington Ave., New York 32
TIME AND PLACE: 8:30 p.m., Third Wednesday of each month; New York Academy of Medicine, 2 E. 103rd St., New York 29

NEW YORK SOCIETY FOR CLINICAL OPHTHALMOLOGY

PRESIDENT: Arthur Linksz, M.D.
SECRETARY: Leon H. Ehrlich, M.D., 211 Central Park West, New York 24
TIME AND PLACE: 8:30 p.m., Third Wednesday of each month; New York Academy of Medicine, 2 E. 103rd New York 29

CENTRAL NEW YORK EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: James E. Sheehy, M.D.
SECRETARY: O. W. Oberlander, Jr., M.D., 301 State Tower Bldg., Syracuse

EASTERN NEW YORK EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Robert Ward, M.D.
SECRETARY: Frank C. Furlong, M.D., 713 Union St., Schenectady
TIME AND PLACE: First Thursday of November, January, February, March, April and June; Albany, Schenectady and Troy

ALUMNI ASSOCIATION OF THE NEW YORK EYE AND EAR INFIRMARY

PRESIDENT: Joseph H. Krug, M.D.
SECRETARY: John R. Finlay, M.D., Greenwich Medical Bldg., 49 Lake Ave., Greenwich, Conn.

BROOKLYN OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Rodolph M. Cutino, M.D.
SECRETARY: Nicholas P. Tantillo, M.D., One Hanson Pl., Brooklyn 17
TIME: Fourth Monday of each month

BUFFALO OPHTHALMOLOGICAL CLUB

PRESIDENT: Herbert R. Reitz, M.D.
SECRETARY: Harold E. Wass, M.D., 333 Linwood, Buffalo 9
TIME AND PLACE: Monthly; Sheraton Hotel, Buffalo

NASSAU OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Arthur E. Merz, M.D.
SECRETARY-TREASURER: John R. Roche, M.D., 1554 Northern Blvd., Manhasset, L. I.
TIME: Fourth Monday of February, April, September and November

North Carolina

NORTH CAROLINA EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Ralph Arnold, M.D.
SECRETARY: George T. Noel, M.D., P. O. Box 397, Kannapolis
TIME AND PLACE: September 13-16, 1959; Charleston, S. C.

Ohio

AKRON ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: R. H. Stahl, M.D.
SECRETARY: D. W. Mathias, M.D., 819 First National Tower, Akron 8
TIME AND PLACE: 6:30 p.m., First Monday of October, December, February and May; Akron City Club, Akron

CINCINNATI OPHTHALMOLOGICAL SOCIETY

EXECUTIVE COUNCIL: Donald J. Lyle, M.D.; Charles K. W. Ascher, M.D.; George B. Heidelman, M.D.
SECRETARY: Josef D. Weintraub, M.D., 715 Provident Bank Bldg., Cincinnati 2
TIME AND PLACE: Second Wednesday of each month, November to May

CINCINNATI OTOLARYNGOLOGICAL SOCIETY

PRESIDENT: Edward A. Juler, M.D.
SECRETARY: Raymond L. Pfister, M.D., 2600 Union Central Bldg., Cincinnati 2
TIME AND PLACE: 6:30 p.m., Third Monday of each month; University Club, Cincinnati

CLEVELAND OPHTHALMOLOGICAL CLUB

PRESIDENT: Samuel T. Forsythe, M.D.
SECRETARY-TREASURER: Robert C. Kirk, M.D., 15644 Madison Ave., Lakewood 7
TIME AND PLACE: Quarterly; Wade Park Manor, 107th St. and Park Lane, Cleveland

CLEVELAND OTOLARYNGOLOGICAL CLUB

PRESIDENT: Thomas L. Smith, M.D.
SECRETARY: Richard L. Ruggles, M.D., 10515 Carnegie Ave., Cleveland 6

COLUMBUS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Robert H. Magnuson, M.D.
SECRETARY: John E. Arthur, M.D., 370 E. Town St., Columbus
TIME AND PLACE: First Monday of each month, October through May; University Club, 40 S. Third St., Columbus

TOLEDO EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Max F. Sudhoff, M.D.
SECRETARY: Frank W. Taylor, M.D., 2060 Glendale Ave., Toledo 14
TIME AND PLACE: 6:30 p.m., Third Tuesday of each month; Toledo Club

Oklahoma

OKLAHOMA CITY ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: E. Norris Robertson, Jr., M.D.
SECRETARY: Robert W. King, M.D., 1200 N. Walker, Oklahoma City

Oregon

OREGON ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Joseph I. Moreland, M.D.
SECRETARY: Paul B. Myers, M.D., 223 Medical Dental Bldg., Portland 5
TIME AND PLACE: Fourth Tuesday of each month; Aero Club of Oregon, 804 S.W. Taylor St., Portland

Pennsylvania

PENNSYLVANIA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Murray F. McCaslin, M.D.
SECRETARY: Daniel S. DeStio, M.D., 1006 Highland Bldg., Pittsburgh 6

WESTERN PENNSYLVANIA EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Dorsey Hoyt, M.D.
SECRETARY: F. E. Murdock, M.D., 28½ W. Scribner Ave., DuBois
TIME AND PLACE: Third Thursday of April and September; Indiana

WYOMING VALLEY EYE, EAR, NOSE AND THROAT CLUB

PRESIDENT: W. C. Marsden, M.D.
SECRETARY: Albert J. Abbott, M.D., 203 E. Green St., Nanticoke
TIME AND PLACE: Last Tuesday of each month, October through April; Luzerne County Medical Society Bldg., S. Franklin St., Wilkes-Barre

PHILADELPHIA COLLEGE OF PHYSICIANS, SECTION ON OPHTHALMOLOGY

PRESIDENT: Harold G. Scheie, M.D.
SECRETARY: William E. Krewson III, M.D., 1930 Chestnut St., Philadelphia 3
TIME AND PLACE: Third Thursday of each month, October to May; College of Physicians, 19 S. 22nd St., Philadelphia

PHILADELPHIA COUNTY MEDICAL SOCIETY, EYE SECTION

CHAIRMAN: Thomas H. Cowan, M.D.
SECRETARY: William C. Frayer, M.D., 313 S. 17th St., Philadelphia
TIME AND PLACE: First Thursday of each month; Philadelphia County Medical Society Bldg., 301 S. 21st St., Philadelphia

PHILADELPHIA LARYNGOLOGICAL SOCIETY

PRESIDENT: John O'Keefe, M.D.
SCERETARY: William Lell, M.D., 333 S. 18th St., Philadelphia
TIME AND PLACE: First Tuesday of each month; College of Physicians Bldg., Philadelphia

PITTSBURGH OPHTHALMOLOGICAL SOCIETY

PRESIDENT: Raymond J. Gray, M.D.
SECRETARY: William G. Everett, M.D., 407 Jenkins Bldg., Pittsburgh 22
TIME AND PLACE: Third Monday of each month; Mellon Institute

PITTSBURGH OTOLOGICAL SOCIETY

PRESIDENT: B. L. Silverblatt, M.D.
SECRETARY: John T. Dickenson, M.D., Mercy Hospital, Pittsburgh 19

READING EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Carroll McClure, M.D.
SECRETARY: James H. Parker, Jr., M.D., 238 N. Fifth St., Reading
TIME AND PLACE: Third Wednesday of each month; Wyomissing Club

South Carolina

SOUTH CAROLINA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: F. R. Price, M.D.
SECRETARY-TREASURER: Roderick Macdonald, M.D., 330 E. Main St., Rock Hill
TIME AND PLACE: September 13-16, 1959; Charleston

Tennessee

TENNESSEE STATE ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: John Wilson, M.D.
SECRETARY: Thomas Bryan, M.D., 2105 Hayes St., Nashville

CHATTANOOGA AND HAMILTON COUNTY EYE, EAR, NOSE AND THROAT SOCIETY

CHAIRMAN AND SECRETARY: J. E. Johnson, M.D., 4547 Brainerd Rd., Chattanooga 4
TIME AND PLACE: 6:30 p.m., Last Thursday of each month; Mountain City Club

KNOXVILLE SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: E. E. Miller, M.D.
SECRETARY: J. Ed Campbell, Jr., M.D., 406 W. Church Ave., Knoxville
PLACE: University of Tennessee Research Hospital

MEMPHIS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

CHAIRMAN: Each member in alphabetical order
SECRETARY: William F. Murrah, M.D., 1720 Exchange Bldg., Memphis
TIME AND PLACE: Second Tuesday of each month; Memphis Eye, Ear, Nose and Throat Hospital

NASHVILLE ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Lee Cayce, M.D.
SECRETARY: Clyde Alley, M.D., Medical Arts Bldg., Nashville
TIME AND PLACE: Third Monday, October through May; Nashville Woman's Club

Texas

TEXAS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: James T. Robison, M.D.
SECRETARY: E. G. Grafton, M.D., 8215 Westchester, Dallas 25
TIME AND PLACE: December 4-5, 1959; Hilton Hotel, Fort Worth

DALLAS ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Edward A. Newell, M.D.
SECRETARY-TREASURER: James L. Baldwin, M.D., 1627 Medical Arts Bldg., Dallas
TIME AND PLACE: June 2, 1959; Amon Carter Airport

FORT WORTH EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: Van Rathgeber, M.D.
SECRETARY: Paul A. Rockwell, M.D., 1216 Pennsylvania Ave., Fort Worth 4
TIME AND PLACE: First Friday of each month; St. Joseph Hospital

HOUSTON OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY

PRESIDENT: Thomas J. VanZant, M.D.
SECRETARY: Louis Daily, M.D., 1117 Medical Arts Bldg., Houston 2
TIME: Third Thursday of each month

SAN ANTONIO SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: James L. Mims, Jr., M.D.
SECRETARY: Dan A. Russell, Jr., M.D., 705 E. Houston St., San Antonio
TIME: Third Tuesday of each month, October through May

Virginia

VIRGINIA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Calvin T. Burton, M.D.
SECRETARY-TREASURER: Marion K. Humphries, Jr., M.D., 104 E. Market St., Charlottesville

TIDEWATER OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY

PRESIDENT: Charles Rawls, M.D.
SECRETARY: J. A. Klotz, Jr., M.D., 905 Wainwright Bldg., Norfolk 10
TIME AND PLACE: October, February and May; Tidewater area

RICHMOND, VIRGINIA, EYE, EAR, NOSE AND THROAT SOCIETY

PRESIDENT: J. S. Archer, M.D.
SECRETARY: Mason Smith, M.D., 2035 Monument Ave., Richmond 20
TIME AND PLACE: Second Tuesday of January, first Tuesdays of April and October; Commonwealth Club

Washington

WASHINGTON STATE MEDICAL ASSOCIATION, SECTION ON EYE, EAR, NOSE AND THROAT

PRESIDENT: Eugene F. McElmeel, M.D.
SECRETARY: Neil F. Thorlakson, M.D., 605 Cobb Bldg., Seattle 1
TIME AND PLACE: September 1959; Seattle

PUGET SOUND ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Willard F. Goff, M.D.
SECRETARY: James L. Hargiss, M.D., 1059 Medical Dental Bldg., Seattle 1
TIME AND PLACE: Third Tuesday of each month; Roosevelt Hotel

SPOKANE ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: Robert L. Pohl, M.D.
SECRETARY: Robert J. Davis, M.D., 305 Medical Center Bldg., Spokane
TIME: Fourth Tuesday evening of every other month

West Virginia

WEST VIRGINIA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

PRESIDENT: John H. Trotter, M.D.
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